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POLLUTION OF THE INTERSTATE WATERS
OF THE PEARL RIVER, MISSISSIPPI-
LOUISIANA. SECOND SESSION PROCEEDINGS
OF CONFERENCE HELD AT BOGALUSA,
LOUISIANA ON NOVEMBER 7, 1968

Federal Water Pollution Control Administration
Washington, D. C.

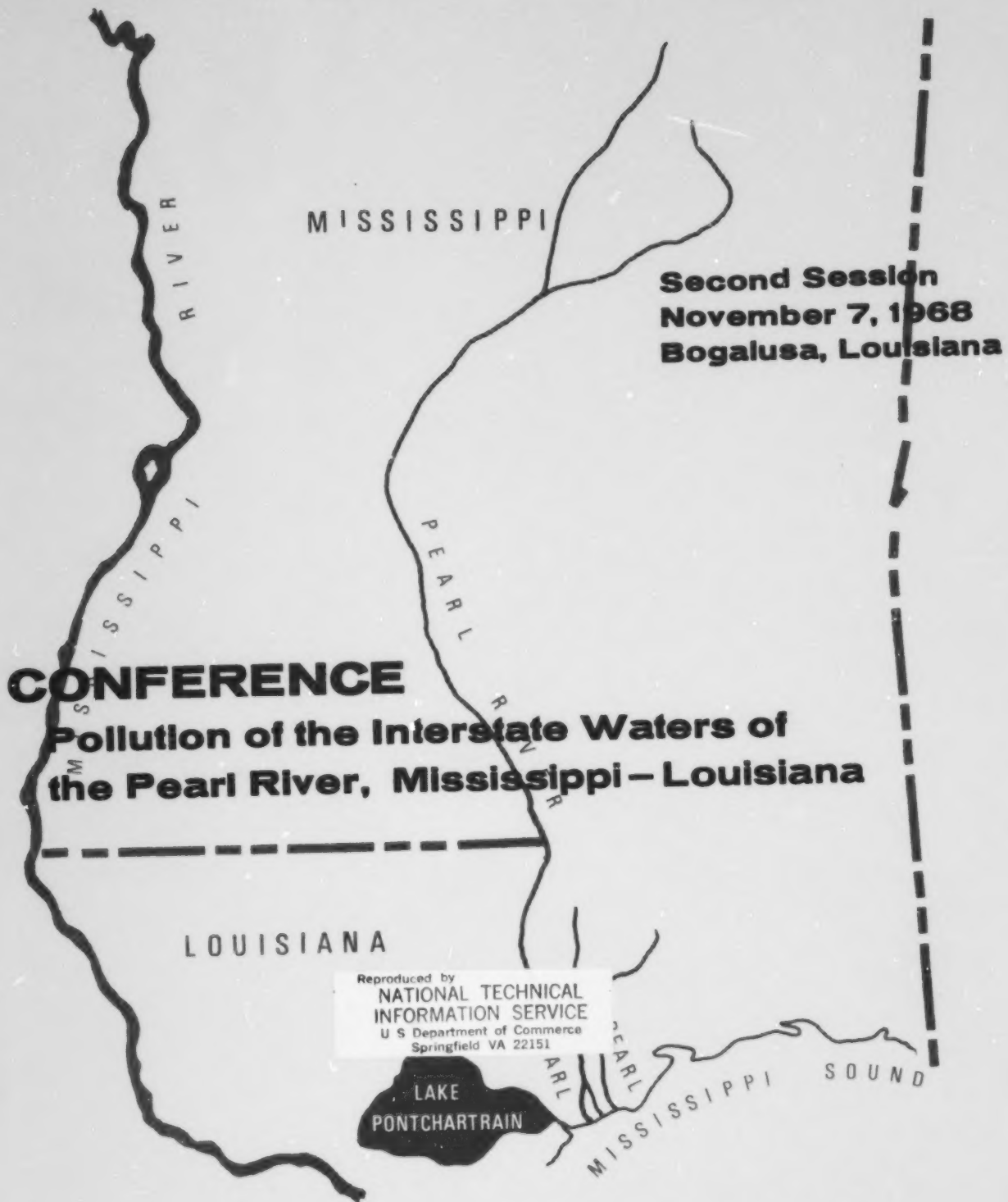
7 November 1968

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PROCEEDINGS



CONFERENCE PROCEEDINGS

In the Matter of Pollution of the Interstate

Waters of the Pearl River

Mississippi - Louisiana

Second Session
November 7, 1968

City Hall
Bogalusa, Louisiana

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Conference Proceedings in the Matter of Pollution of the
Interstate Waters of the Pearl River and its Tributaries (Mississippi -
Louisiana), Second Session, held at the City Hall, Bogalusa, Louisiana,
November 7, 1968 at 10:00 a.m.

PRESIDING:

Mr. Murray Stein, Assistant Commissioner for
Enforcement, Federal Water Pollution Control
Administration, Department of the Interior.

CONFEREES:

Mr. John R. Thoman, Director, Southeast Regional
Office, U. S. Department of the Interior, Federal
Water Pollution Control Administration, Atlanta,
Georgia.

Mr. Robert Wright, Executive Secretary, Mississippi
Air and Water Pollution Control Commission, Jackson,
Mississippi.

Mr. Robert A. Lafleur, Executive Secretary,
Louisiana Stream Control Commission, Baton Rouge,
Louisiana.

Mr. John E. Trygg, Director, Bureau of Environmental
Health, Louisiana State Department of Health.

OTHERS IN ATTENDANCE

v

Mr. R. H. Allen
Director Government Relations
International Paper Company
Mobile, Alabama

Mr. R. Lloyd Arnold
Comptroller
Crosby Wood Preserving Company
Picayune, Mississippi

Mr. S. T. Bauer
Asst. Technical Director
Crosby Chemicals Incorporated
Picayune, Mississippi

Mr. Herbert F. Berger
Regional Engineer
National Council for Air and
Stream Improvement
Gainesville, Florida

Mr. Donnie W. Berryhill
Assistant Engineer
Mississippi State Board of Health
Jackson, Mississippi

Mr. J. W. Black
Asst. Technical Director
St. Regis Paper Company
Monticello, Mississippi

Mr. Al Brooks
Manager
Chamber of Commerce
Bogalusa, Louisiana

Mr. J. P. Brown
Pearl River County Fish and
Wildlife Conservation Club
Route 2
Picayune, Mississippi

Mr. K. N. Burgess
Plant Manager
Crosby Chemicals Incorporated
Picayune, Mississippi

Mr. Bernard Callender
Attorney
Crosby Chemicals Inc.
Columbia, Mississippi

Mr. James P. Coting
Aquatic Biologist
FWPCA, South Central Region
Baton Rouge, Louisiana

Mr. Gary Cooper
Recording Secretary
Pearl River County Fish and
Wildlife Conservation Club
Route 1
Picayune, Mississippi

Mr. Robert Coram
Correspondent, McGraw-Hill, Inc.
Atlanta, Georgia

Mr. William D. Cotton
Biologist, Mississippi Game
and Fish Commission
Hattiesburg, Mississippi

Mr. W. D. Crane
Superintendent
Water and Sewerage
City of Picayune
Picayune, Mississippi

Mr. T. L. Crosby
Vice President
Crosby Chemicals Incorporated
Picayune, Mississippi

Mr. Ernest Epps
Chief Chemist
Louisiana Department of Agriculture
Baton Rouge, Louisiana

Mr. John Fabey
Bureau Chief, Times-Picayune
New Orleans, Louisiana

Mr. Thomas P. Gallagher
Acting Chief, Engineering Services
FWPCA, Southeast Water Laboratory
Athens, Georgia

Mr. Ray Graham
Captain, Fire Department
City of Bogalusa, Louisiana

Mr. Boyd B. Greene
Mississippi Air and Water
Pollution Control Commission
Poplarville, Mississippi

Mr. Robert L. Grevemberg, Jr.
WDSU-TV News
New Orleans, Louisiana

Mr. T. P. Harrison, II
FWPCA, South Central Region
Dallas, Texas

Mr. Kermit L. Herbert
Project Engineer
Pyburn and Odum
Baton Rouge, Louisiana

Dr. E. R. Hendrickson
President, Environmental
Engineering, Incorporated
Gainesville, Florida

Mr. Keith A. Homan
Forester, US Forest Service
Jackson, Mississippi

Mr. R. H. Hough
Chemist, General Electric Co.
Bay St. Louis, Mississippi

Mr. Houston Jenkins
Commissioner of Streets and
Parks
City of Bogalusa, Louisiana

Mr. Eddie Johnston
Control Laboratory Supr.
Crosby Chemicals Incorporated
Picayune, Mississippi

Mr. S. Boyd Jones
City Clerk
Bogalusa, Louisiana

Mr. W. M. Jones, Jr.
Division of Public Affairs
Mississippi Manufacturers Assn.
Jackson, Mississippi

Mr. L. A. Kelson
Resident Manager
Crown Zellerbach Corporation
Bogalusa, Louisiana

Mr. Leonard Leal
Reynolds, Smith and Hius
Jackson, Mississippi

Mr. Edward F. Lee
Public Information Officer
FWPCA, South Central Region
Dallas, Texas

Mr. Charles E. Lewis
Pearl River County Fish and Wildlife
Conservation Club
Picayune, Mississippi

Mr. Elton McCraney
Treasurer, Pearl River County
Fish and Wildlife Conservation
Club
Picayune, Mississippi

Mr. Edgar Larry Mizell
Technical Supervisor
Crown Zellerbach Corporation
Bogalusa, Louisiana

Mr. Thomas L. Murphy, Jr.
President
Columbia Pulp and Paper Company
Columbia, Mississippi

Col. R. H. Naylor
Executive Vice President
Benham-Blair and Affiliates
Jackson, Mississippi

Mr. Jens Nielsen
Project Engineer
Burk and Associates
New Orleans, Louisiana

Captain E. A. Poulter
Captain of the Port, New Orleans
U. S. Coast Guard
New Orleans, Louisiana

Mr. Robert Rester
City Attorney
City of Bogalusa, Louisiana

Mr. David D. Robinson
Biologist, Mississippi Game
and Fish Commission
Hattiesburg, Mississippi

Mr. Louis A. Rowland, Jr.
Economic Development Specialist
Louisiana Department of Commerce
and Industry
Baton Rouge, Louisiana

Mr. Willis E. Ruland
Sanitary Engineer
U. S. Army Engineers District
Mobile, Alabama

Mr. Richard Seal
Commissioner of Finance
City of Bogalusa, Louisiana

Mr. Bryon A. Smith
Chemist, Analysis
Crosby Chemical Corporation
Picayune, Mississippi

Mr. Elmer Smith
Commissioner of Safety
City of Bogalusa, Louisiana

Mr. Francis F. Stevens
Chief, Permits Branch
U. S. Army Corps of Engineers
Mobile, Alabama

Mr. A. T. Stewart
Chairman, Pollution Committee
Pearl River Basin Development
Picayune, Mississippi

Mr. Albert H. Story
Assoc. Director for Field R & D
U. S. Public Health Service
Dauphin Island, Alabama

Mr. Steve Summers
Newscaster, WDSU - TV
New Orleans, Louisiana

Mr. Paul Traina
Chief, Technical Programs
FWPCA, Southeast Water Laboratory
Athens, Georgia

Mr. Horace Walters
Commissioner of Health and
Property
City of Bogalusa, Louisiana

Mr. John C. White
State Planning and Program
Grants Officer
FWPCA, Southeast Region
Atlanta, Georgia

Mr. Sydney L. Zeid
President, Albert Switzer and
Associates
Baton Rouge, Louisiana 70808

Opening Statement - Murray Stein

CONFERENCE SESSION

PEARL RIVER ENFORCEMENT CONFERENCE

Federal Water Pollution Control Administration

Bogalusa City Hall

Bogalusa, Louisiana

November 7, 1968

- - - -

The second session of the Conference on Interstate Pollution of the Pearl River convened November 7, 1968 and was called to order at 10:00 a.m. by Mr. Murray Stein.

MR. STEIN: The conference is open.

The second session of the conference in the matter of pollution of the interstate waters of the Pearl River (Mississippi-Louisiana) is being held under the provisions of Section 10 of the Federal Water Pollution Control Act.

Under the provisions of the Act, the Secretary of the Interior is authorized to call a conference of this type when on the basis of reports, surveys, or studies he has reason to believe that pollution of interstate waters subject to abatement under the Federal Act is occurring.

The purpose of the conference is to bring together the State water pollution control agencies, representatives of the United States Department of the Interior and other interested parties to review the existing situation and progress which has been made, to lay a basis of future action by all parties concerned, 71-

and to give the States, localities and industries an opportunity to take any indicated remedial action under State and local law.

The conference technique is rather an old one. It is used informally by many State agencies in the normal conduct of their business in the field of water pollution control.

The conference system was proposed by the U. S. Supreme Court long ago, and I would suggest that in a matter involving Louisiana, Mississippi and the United States, where we all have a vital interest in seeing that the waters of the Pearl River are cleaned up and are kept clean, that the conference technique may be the best way to do this.

We strongly support the conference technique and we measure our success by the problems which are solved at the conference table, rather than in court.

The first session of this conference was held on October 22, 1963. At this session, the following conclusions and recommendations were agreed upon:

(1) Municipal and industrial waste discharges originating in the interstate waters of the Pearl River system in Louisiana pollute the Pearl River in Mississippi; the same kind of discharges originating in the same river in Mississippi pollute the Pearl River in Louisiana.

(2) Delays in abatement of sewage and industry-caused pollution are due to the failure to install adequate waste treatment facilities by the municipalities and industries concerned.

(3) Construction of remedial works is to be started by Bogalusa, Louisiana, and Picayune, Mississippi, by October 1965.

(4) A minimum of four parts per million dissolved oxygen is necessary during the fish spawning season to maintain water of satisfactory quality for the propagation of fish and aquatic life in the interstate reaches of the Pearl River. A minimum of three parts per million of dissolved oxygen is necessary at all other times during the year.

(5) The Louisiana conferee indicated that discharges from the Crown Zellerbach pulp and paper mill near Bogalusa, Louisiana, not in excess of 62,000 pounds BOD per day are expected to solve the pollution problem caused by that mill. Upon completion by April 1964 of the mill treatment facilities, the Federal Government in conjunction with Louisiana and Mississippi will monitor the river to determine if the minimums of dissolved oxygen are achieved.

(6) Industrial waste discharges from Crosby Chemical Corporation near Picayune, Mississippi, which may be occurring on a daily basis, endanger the health or welfare of persons in Louisiana. The conferees take cognizance of the substantial effort this company has made to treat its toxic waste and of its construction of an additional lagoon system which shall be in operation by January 1965. Federal technical assistance will be made available to Mississippi in order that recommendations may be made for appropriate remedial measures.

(7) At present there is no indication of damage to the shellfish industry in the Mississippi Sound. Mississippi and Louisiana will conduct a joint study of possible pollution of the shellfish area by the Pearl River system.

(8) If the remedial measures installed by the municipalities and industries do not achieve water quality suitable for recreational use, water contact sports, and the propagation of fish and aquatic life, the conference will be reconvened at the call of the chairman.

Today's session of the conference was called for the purpose of reviewing the status of the recommended pollution abatement program adopted at the first conference session.

I think as subsequent events since the first conference have indicated, and possibly the change in the art and the law which have been forthcoming, we probably have some real serious problems to consider at this conference.

As specified in Section 10 of the Federal Water Pollution Control Act, the official State water pollution control agencies of Mississippi and Louisiana have been notified of this conference.

The conference is between the official State agencies and the United States Department of the Interior.

The Mississippi Air and Water Pollution Control Commission will be represented by Mr. Robert S. Wright.

Louisiana will be represented by Mr. Robert Lafleur and Mr. John Trygg.

Mr. John Thoman has been designated as conferee for the Federal Government.

My name is Murray Stein. I am from headquarters of the Department of the Interior, Washington, D. C., and am the representative of Secretary Udall.

The parties to this conference are the representatives of the State agencies and the United States Department of the Interior. Participation in the conference will be open to representatives and invitees of these agencies and such persons as inform me that they wish to present statements.

However, only the representatives of Mississippi, Louisiana and the United States Department of the Interior constitute the conferees.

Both the State and Federal Governments have responsibilities in dealing with water pollution control problems. The Federal Water Pollution Control Act declares that the States have primary rights and responsibilities for taking action to abate and control pollution.

Consistent with this, we are charged by law to encourage the States in their activities. At the same time, the Secretary of the Interior is charged by law with specific responsibilities in the field of water pollution control in connection with pollution of interstate and navigable waters.

The Federal Water Pollution Control Act provides that pollution of interstate or navigable waters, whether the matter

causing or contributing to the pollution is discharged directly into such waters, or reaches such waters after discharge into a tributary, which endangers the health or welfare of any persons, shall be subject to abatement.

Now, a word about the procedures governing the conduct of the conference. The conferees will be called upon to make statements. The conferees, in addition, may call upon participants whom they have invited to the conference to make statements.

In addition, we will call on other interested individuals who wish to present their statements. Only the conferees or those people called upon will be permitted to ask questions or speak.

This is not an open mass meeting. We do this so we won't overindulge the hospitality of Bogalusa. In other words, if you feel that you have a question, hold that until you are called upon by one of the conferees to make your statement, and you will be given a full opportunity to present your views.

At the conclusion of each statement, the conferees will be given an opportunity to comment or ask questions. This procedure has proven effective in the past in reaching equitable solutions.

At the end of all the statements, we will have a discussion among the conferees and try to arrive at a basis of agreement on the facts of the situation. Then we will attempt to summarize the conference orally, giving the conferees, of course, the right to amend or modify the summary.

Under the Federal law, the Secretary of the Interior is required at the conclusion of the conference to prepare a summary of it, which will be sent to the conferees.

And the Secretary is also required to make recommendations for remedial action as such recommendations are indicated.

Our record and verbatim transcript of the conference is being made by Mr. Tom Crites. This is made for the purpose of aiding us in preparing a summary and providing a complete record of what is said here.

We will make copies of the summary and transcript available to the State water pollution control agencies. If you wish copies, we would suggest that you get in touch with your State agencies.

We have found that it is generally better for maintaining relationships with the State, that you work as you normally would on a day-to-day basis with the State agencies rather than the Federal Government.

Our experience has been that it will take about three or four months for the transcript to be available, although the summary will be available, we hope in printed form considerably earlier and, of course, we will have a typed summary of the transcript here.

I should indicate we do not print in color. So if you have any charts, the printing will be done in black and white. That should be taken into account. So try not to refer to the red or

blue line in the chart, because that will be somewhat meaningless if someone reads it in the transcript.

I would suggest that all speakers and participants other than the conferees making statements come to the lectern and identify themselves for purposes of the record.

In addition, if you have a prepared statement, we would appreciate your giving copies to the reporter and to the conferees before making your statement.

Now, because of certain commitments, we shall proceed slightly out of order. At this point, I would like to call on Mr. Robert Lafleur.

MR. ROBERT A. LAFLEUR (Conferee, representing the State of Louisiana): Thank you, Mr. Chairman. And before I introduce our first speaker this morning, I would like to introduce members of my Board.

One who is co-conferee with me at this conference -- this co-conferee is Mr. John Trygg, Director of our Bureau of Environmental Health in the State Health Department and a member of our Stream Control Commission.

In addition and representing the Department of Commerce and Industry, Mr. Louis Rowland.

And last but not least, Mr. Ernest Epps, Chief Chemist for the Louisiana Department of Agriculture. And he is also a member of our Board.

Now, for our first speaker, I would like to introduce and call on Mayor Curt Siegelin, mayor of the city of Bogalusa. Mayor Siegelin.

MAYOR CURT SIEGELIN: Thank you very much, Mr. Lafleur. Mr. Stein, other officials who are here today and visitors from our neighboring communities and the State of Mississippi, I would like to officially welcome all of you to the city of Bogalusa on this occasion.

I would first like to introduce the members of our Commission Council of the city of Bogalusa who are here.

I have Commissioner Seal, our Commissioner of Finance; Commissioner Jenkins, Commissioner of Streets and Parks; Commissioner Walters, Commissioner of Health and Property; Commissioner Smith, our Commissioner of Safety; and our City Attorney Robert Rester.

Also, we have here our Work Superintendent Walter Galloway, and our City Engineer Harold Marquart.

These remarks, Mr. Chairman, are not in a prepared form, so to speak, so I have no copies to submit to the panel as such.

I would like to state at the outset that this administration is firmly against pollution of streams, rivers, air or pollution in any form. And I want that to go on the record as being the attitude of this administration.

I'm not familiar with the proceedings of 1963, having been unable to find a copy of such proceedings, although they probably

are somewhere in the files. I'm more interested in results rather than in proceedings.

I served as a member of the Stream Control Commission for the State of Louisiana for four years, 1956 to 1960, while I was Director of the Department of Commerce and Industry for the State of Louisiana. I served with Mr. Trygg, Mr. Lafleur and several other people who are as vitally interested in cleaning our streams and rivers as the majority of this group here today.

During that period of 1956 to 1960, you will recall that was the era of the influx of the petrochemical industry along the Mississippi River due to the abundant water supply, not only for transportation but for plant use as well.

And I would like to compliment the Stream Control Commission for the work they have done along the Mississippi River since that period when the petrochemicals have since flourished so much in that area.

Now, to get down to Bogalusa. Bogalusa started, as you well know -- and I am not going to take up a lot of the Commission's time by giving you a history of the city of Bogalusa, the failures of the city of Bogalusa or other events which may have happened in the past.

Bogalusa started primarily as a sawmill town. It started as a sawmill town and if the founding fathers, many of whose pictures are on the walls here, were here today, they would tell you that

Bogalusa was to have died when the last log was cut -- such as many communities in Mississippi and Louisiana have done.

And it's inconceivable to me that when I was first elected mayor in 1946, the middle of the 20th century, so to speak, that only 18 percent of the homes in the city of Bogalusa were served with sanitary sewers; the remainder were served with outhouses.

So it's no mystery to me why Bogalusa has lagged so much, not only in the extension of plain sanitary sewer lines to our residences and to our outlying districts and to our businesses, but also the fact that we continue to dump our wastes in the creek and in the swamps which lead into Pearl River.

I'm not trying to hide a single thing of the situation in Bogalusa. We today are dumping 60 percent of our raw sewage into Bogue Lusa Creek or into the swamp which goes into Pearl River.

In 1960, a primary small -- small primary treatment plant was constructed which takes care of 40 percent of our raw sewage in a primary treatment status -- not secondary. We have no secondary treatment plant whatsoever.

I do not condone the dumping of 60 percent of raw sewage into Pearl River. And I want that on the record.

We have three outfall lines dumping this raw sewage into Bogue Lusa Creek and into the swamps, as I said, which go into Pearl River.

Down through the years since 1946, when I was first elected mayor -- and I might say that this is my fourth term as mayor, being in and out several times -- today, approximately 85 to 90 percent of the homes in Bogalusa do have sanitary sewerage.

But that does not remedy the situation for which we are here today -- that of contamination of our streams and polluting of Pearl River.

This administration took office in December of 1966 and an entirely new Commission Council. I was not new in the mayor's office. As I say, I had served three terms previously.

I had returned from serving as Director of the Department of Commerce and Industry under the late Earl K. Long. So we took office in December of 1966.

We immediately began working. And when I say "work," we worked 14, 15 hours a day, sometimes six days a week, on a program that we called "Progress for the city of Bogalusa." And included in that program was this idea and this business of not only extending sewer systems to each and every home in the city of Bogalusa, but the elimination of the pollution of Bogue Lusa Creek and Pearl River.

And we worked and we prepared what we in our estimation thought was a program of progress for this city. And I shall file with the Commission the brochure of the ballot of all the publicity and the news articles of all the advertising run for the election which was held July 29, 1967.

MR. STEIN: Without objection, the ballot will be entered into the record as if read. The other materials will be filed.

(The above-mentioned ballot follows. The publicity and the news articles, marked Exhibit 1, are on file at Headquarters, FWPCA, Washington, D. C., and the Southeast Regional Office, Atlanta, Georgia.)

MAYOR SIEGELIN: This program was defeated and defeated soundly. I might mention that for the sewer alone the issue was \$2,300,000, which would have provided for primary and secondary treatment of all sewage from the city of Bogalusa, as well as to extend those sewer lines to those sections not now served and to enlarge and expand certain trunk lines.

This program, as I say, was soundly defeated, along with several other projects which have no bearing on the current problem before the panel here this morning.

The only way in Louisiana that we here in Bogalusa can obtain a capital expenditure is through an ad valorem bond issue or a revenue bond issue, and it must be passed upon by the voters of the city -- property owners both in number and both in dollar assessment.

We got defeated in both popular count and dollar assessments. That was a little over a year ago -- well, a year ago last July. Since then, we have done nothing whatsoever toward the problem.

Official tabulations of the special election held in Bogalusa on Saturday, July 29, 1967, in special session of the Bogalusa Commission Council on Tuesday, August 1, 1967 at 2:00 P. M.

Sewerage District No. 1

Issue bonds to the amount of \$2,300,000.00 to run 30 years with interest not to exceed 6%, for the purpose of constructing and acquiring sewers and a sewage treatment plant and disposal works

Popular vote: Against 1,977
For 995

defeated by 982

Assessment vote: Against \$2,091,577.00
For 1,143,327.00

defeated by \$ 948,250.00

OFFICIAL BALLOT

**SPECIAL ELECTION
SATURDAY, JULY 29, 1967**

**SEWERAGE DISTRICT NO. 1 OF THE
CITY OF BOGALUSA, STATE OF LOUISIANA**

Polls Open at Six (6:00) O'clock A. M. and Close at Eight
(8:00) O'clock P. M.

PROPOSITION

Shall Sewerage District No. 1 of the City of Bogalusa, State of Louisiana, incur debt and issue bonds to the amount of Two Million Three Hundred Thousand Dollars (\$2,300,000.00), to run thirty (30) years from date thereof, with interest at a rate not exceeding six per centum (6%) per annum, for the purpose of constructing and acquiring sewers and a sewage treatment plant and disposal works for said Sewerage District, title to which shall be in the public?

YES ☐

NO ☐

Taxable Valuation \$ _____

Signature of Voter _____

NOTICE TO VOTERS. To vote in favor of the proposition submitted on this ballot, place a cross (X) mark in the square after the word "YES"; to vote against it, place a similar mark in the square after the word "NO."

Nº 2899

OFFICIAL BALLOT

**SPECIAL ELECTION
SATURDAY, JULY 29, 1967**

**SEWERAGE DISTRICT NO. 1 OF THE
CITY OF BOGALUSA, STATE OF LOUISIANA**

Polls Open at Six (6:00) O'clock A. M. and Close at Eight
(8:00) O'clock P. M.

PROPOSITION

Shall Sewerage District No. 1 of the City of Bogalusa, State of Louisiana, incur debt and issue bonds to the amount of Two Million Three Hundred Thousand Dollars (\$2,300,000.00), to run thirty (30) years from date thereof, with interest at a rate not exceeding six per centum (6%) per annum, for the purpose of constructing and acquiring sewers and a sewage treatment plant and disposal works for said Sewerage District, title to which shall be in the public?

YES ☐

NO ☐

Taxable Valuation \$ _____

Signature of Voter _____

NOTICE TO VOTERS. To vote in favor of the proposition submitted on this ballot, place a cross (X) mark in the square after the word "YES"; to vote against it, place a similar mark in the square after the word "NO."

Nº 2898

OFFICIAL BALLOT

SPECIAL ELECTION
SATURDAY, JULY 29, 1967

CITY OF BOGALUSA, STATE OF LOUISIANA

Polls Open at Six (6:00) O'clock A. M. and Close at Eight
(8:00) O'clock P. M.

PROPOSITION No. 1

Shall the City of Bogalusa, State of Louisiana, levy a tax not to exceed four (4) mills on all the property subject to State taxation in said City for a period of ten (10) years, beginning with the year 1967, for the purpose of providing municipal services and for the maintenance and operation of municipal service departments, including the acquisition of necessary equipment therefor and the payment of salaries of the personnel of said departments?

YES ☐NO ☐

PROPOSITION No. 2

Shall the City of Bogalusa, State of Louisiana, incur debt and issue bonds to the amount of One Million Five Hundred Thousand Dollars (\$1,500,000.00), to run thirty (30) years from date thereof, with interest at a rate not exceeding six per centum (6%) per annum, for the purpose of constructing a building consisting of an incinerator for said City and acquiring all necessary land, equipment and furnishings therefor, title to which shall be in the public?

YES ☐NO ☐

PROPOSITION No. 3

Shall the City of Bogalusa, State of Louisiana, incur debt and issue bonds to the amount of Three Hundred Thousand Dollars (\$300,000.00), to run thirty (30) years from date thereof, with interest at a rate not exceeding six per centum (6%) per annum, for the purpose of constructing and improving Jail buildings, including the necessary equipment and furnishings therefor, title to which shall be in the public?

YES ☐NO ☐

PROPOSITION No. 4

Shall the City of Bogalusa, State of Louisiana, incur debt and issue bonds to the amount of Seven Hundred Sixty-Five Thousand Dollars (\$765,000.00), to run thirty (30) years from date thereof, with interest at a rate not exceeding six per centum (6%) per annum, for the purpose of constructing and improving drains and drainage canals in said City, title to which shall be in the public?

YES ☐NO ☐

PROPOSITION No. 5

Shall the City of Bogalusa, State of Louisiana, incur debt and issue bonds to the amount of One Hundred Fifty Thousand Dollars (\$150,000.00), to run thirty (30) years from date thereof, with interest at a rate not exceeding six per centum (6%) per annum, for the purpose of constructing a fire department station and acquiring equipment therefor, including a fire engine, title to which shall be in the public?

YES ☐NO ☐

PROPOSITION No. 6

Shall the City of Bogalusa, State of Louisiana, incur debt and issue bonds to the amount of Seven Hundred Sixty Thousand Dollars (\$760,000.00), to run thirty (30) years from date thereof, with interest at a rate not exceeding six per centum (6%) per annum, for the purpose of constructing and acquiring improvement, extensions and additions to the waterworks system of said City, including any equipment required therefor, title to which shall be in the public?

YES ☐NO ☐

PROPOSITION No. 7

Shall the City of Bogalusa, State of Louisiana, incur debt and issue bonds to the amount of Two Hundred Twenty-Five Thousand Dollars (\$225,000.00), to run thirty (30) years from date thereof, with interest at a rate not exceeding six per centum (6%) per annum, for the purpose of opening, constructing, paving and improving streets, roads and thoroughfares in said City, together with the necessary drainage in connection therewith, title to which shall be in the public?

YES ☐NO ☐

Taxable Valuation \$ _____

OFFICIAL BALLOT

SPECIAL ELECTION
SATURDAY, JULY 29, 1967

CITY OF BOGALUSA, STATE OF LOUISIANA

Polls Open at Six (6:00) O'clock A. M. and Close at Eight
(8:00) O'clock P. M.

PROPOSITION No. 1

Shall the City of Bogalusa, State of Louisiana, levy a tax not to exceed four (4) mills on all the property subject to State taxation in said City for a period of ten (10) years, beginning with the year 1967, for the purpose of providing municipal services and for the maintenance and operation of municipal service departments, including the acquisition of necessary equipment therefor and the payment of salaries of the personnel of said departments?

YES ☐NO ☐

PROPOSITION No. 2

Shall the City of Bogalusa, State of Louisiana, incur debt and issue bonds to the amount of One Million Five Hundred Thousand Dollars (\$1,500,000.00), to run thirty (30) years from date thereof, with interest at a rate not exceeding six per centum (6%) per annum, for the purpose of constructing a building consisting of an incinerator for said City and acquiring all necessary land, equipment and furnishings therefor, title to which shall be in the public?

YES ☐NO ☐

PROPOSITION No. 3

Shall the City of Bogalusa, State of Louisiana, incur debt and issue bonds to the amount of Three Hundred Thousand Dollars (\$300,000.00), to run thirty (30) years from date thereof, with interest at a rate not exceeding six per centum (6%) per annum, for the purpose of constructing and improving Jail buildings, including the necessary equipment and furnishings therefor, title to which shall be in the public?

YES ☐NO ☐

PROPOSITION No. 4

Shall the City of Bogalusa, State of Louisiana, incur debt and issue bonds to the amount of Seven Hundred Sixty-Five Thousand Dollars (\$765,000.00), to run thirty (30) years from date thereof, with interest at a rate not exceeding six per centum (6%) per annum, for the purpose of constructing and improving drains and drainage canals in said City, title to which shall be in the public?

YES ☐NO ☐

PROPOSITION No. 5

Shall the City of Bogalusa, State of Louisiana, incur debt and issue bonds to the amount of One Hundred Fifty Thousand Dollars (\$150,000.00), to run thirty (30) years from date thereof, with interest at a rate not exceeding six per centum (6%) per annum, for the purpose of constructing a fire department station and acquiring equipment therefor, including a fire engine, title to which shall be in the public?

YES ☐NO ☐

PROPOSITION No. 6

Shall the City of Bogalusa, State of Louisiana, incur debt and issue bonds to the amount of Seven Hundred Sixty Thousand Dollars (\$760,000.00), to run thirty (30) years from date thereof, with interest at a rate not exceeding six per centum (6%) per annum, for the purpose of constructing and acquiring improvement, extensions and additions to the waterworks system of said City, including any equipment required therefor, title to which shall be in the public?

YES ☐NO ☐

PROPOSITION No. 7

Shall the City of Bogalusa, State of Louisiana, incur debt and issue bonds to the amount of Two Hundred Twenty-Five Thousand Dollars (\$225,000.00), to run thirty (30) years from date thereof, with interest at a rate not exceeding six per centum (6%) per annum, for the purpose of opening, constructing, paving and improving streets, roads and thoroughfares in said City, together with the necessary drainage in connection therewith, title to which shall be in the public?

YES ☐NO ☐

Taxable Valuation \$ _____

City for a period of ten (10) years, beginning with the year 1967, for the purpose of providing municipal services and for the maintenance and operation of municipal service departments, including the acquisition of necessary equipment therefor and the payment of salaries of the personnel of said departments?

YES ☐
NO ☐

PROPOSITION No. 2

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YES ☐

NO ☐

PROPOSITION No. 3

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YES ☐

NO ☐

PROPOSITION No. 4

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YES ☐

NO ☐

PROPOSITION No. 5

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YES ☐

NO ☐

PROPOSITION No. 6

Shall the City of Bogalusa, State of Louisiana, incur debt and issue bonds to the amount of Seven Hundred Sixty Thousand Dollars (\$760,000.00), to run thirty (30) years from date thereof, with interest at a rate not exceeding x per centum (6%) per annum, for the purpose of constructing and acquiring improvement, extensions and additions to the waterworks system of said City, including any equipment required therefor, title to which shall be in the public?

YES ☐

NO ☐

PROPOSITION No. 7

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YES ☐

NO ☐

Taxable Valuation \$ _____

Signature of Voter _____

NOTICE TO VOTERS: To vote in favor of any proposition submitted on this ballot, place a cross (X) mark in the square after the word "YES" appearing opposite such proposition; to vote against any proposition submitted on this ballot, place a similar mark in the square after the word "NO" appearing opposite such proposition.

City for a period of ten (10) years, beginning with the year 1967, for the purpose of providing municipal services and for the maintenance and operation of municipal service departments, including the acquisition of necessary equipment therefor and the payment of salaries of the personnel of said departments?

YES ☐
NO ☐

PROPOSITION No. 2

Shall the City of Bogalusa, State of Louisiana, incur debt and issue bonds to the amount of One Million Five Hundred Thousand Dollars (\$1,500,000.00), to run thirty (30) years from date thereof, with interest at a rate not exceeding six per centum (6%) per annum, for the purpose of constructing a building consisting of an incinerator for said City and acquiring all necessary land, equipment and furnishings therefor, title to which shall be in the public?

YES ☐

NO ☐

PROPOSITION No. 3

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YES ☐

NO ☐

PROPOSITION No. 4

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YES ☐

NO ☐

PROPOSITION No. 5

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YES ☐

NO ☐

PROPOSITION No. 6

Shall the City of Bogalusa, State of Louisiana, incur debt and issue bonds to the amount of Seven Hundred Sixty Thousand Dollars (\$760,000.00), to run thirty (30) years from date thereof, with interest at a rate not exceeding six per centum (6%) per annum, for the purpose of constructing and acquiring improvement, extensions and additions to the waterworks system of said City, including any equipment required therefor, title to which shall be in the public?

YES ☐

NO ☐

PROPOSITION No. 7

Shall the City of Bogalusa, State of Louisiana, incur debt and issue bonds to the amount of Two Hundred Twenty-Five Thousand Dollars (\$225,000.00), to run thirty (30) years from date thereof, with interest at a rate not exceeding six per centum (6%) per annum, for the purpose of opening, constructing, paving and improving streets, roads and thoroughfares in said City, together with the necessary drainage in connection therewith, title to which shall be in the public?

YES ☐

NO ☐

Taxable Valuation \$ _____

Signature of Voter _____

NOTICE TO VOTERS: To vote in favor of any proposition submitted on this ballot, place a cross (X) mark in the square after the word "YES" appearing opposite such proposition; to vote against any proposition submitted on this ballot, place a similar mark in the square after the word "NO" appearing opposite such proposition.

Nº 1512

Nº 1505

The voters spoke. What the reasons were, I could go into that in great detail, but I don't believe this has any bearing on the problem at hand. The problem at hand is what we are going to do in the future.

We expect -- and I shall ask the council at the November meeting, which was to have been held November 5th, but there was certain other nationwide business that took the time of most of the people on November 5th -- our meeting will be held in November. And I shall put before the council the proposition of retaining an engineering firm, a reputable engineering firm and apply to the Federal Government for planning funds to make an in-depth study on this matter of construction and provision of sufficient plants to provide primary and secondary treatment of the city sewage

Following their study, it is our hope if the climate is right -- and I don't know whether anyone can sit in this audience and tell you when the climate is right among the voters -- to resubmit the proposition again sometime in 1969, either in the summer or the fall of 1969.

That is about all we can do. And if the voters turn it down, they have turned it down. I feel that we in good conscience have lived up, have tried to the best of our ability, recognizing the problem -- believe me, we recognize the problem -- to remedy the problem.

And I would like to point this out -- and I say this without any reservations whatsoever -- the State and Federal Government have preempted every source of revenue that there is available in

the country and left the municipalities with nothing.

We cannot -- and we just completed negotiations with five unions. I'm talking about the unions in our city, among our employees -- every employee that works for the city of Bogalusa belongs to a labor union. With the exception of one or two, and the appointed people who head the departments, we have just completed negotiations with those five locals, so to speak. You know and I know the cost of living and we have had to grant raises.

The income of a city of this size is static. There is nowhere where we could reach for income here or income there. And I say this -- and I will tell anyone this -- that unless the Federal Government or the State can come to the aid of cities such as this or cities in our category of 15 to 30,000 or even larger, the municipality as we know it today is going to be bankrupt in five years. There is nowhere you can turn for revenue to supply the services which people demand when they move in off the farms and move into a municipality, which they have done all over this Nation.

And they want police protection, fire protection, garbage pickup, street lights, paved streets and you can go on and on and on. Frankly, I think the matter of the cleaning up of the streams and the rivers is as much a Federal problem as it is a municipal problem.

And I think help should be forthcoming from the Federal level to aid cities which are in a depressed and distressed, I would say, condition. Certainly, we can go to Fort Worth -- I have been

over there twice. And I'm not going to get into a discussion on my views about bureaucracy or any such thing as that, but try to get a loan out of the Federal Government to do this necessary work-- I've tried -- plus a grant. Sure they will match certain money, but you go over there and they are out of money. Well, if they are out of money, they ought to get rid of the people who are occupying that 12-story building full of people that are there to tell you they are out of money. What do they need the people for?

I'm not up here making a political talk -- I'm just trying, Mr. Stein, to tell you the obstacle that a community this size faces, where we have a people who are fed up with paying taxes, surtaxes, and now I see our governor wants another load of it.

What is going to be left for the municipalities? Our sincerity, Mr. Stein, certainly remains the same. We are as vitally interested in clearing up Pearl River as you are and my good friends Mr. John Trygg and Mr. Lafleur, whom I've known for years and years and worked with. And we shall do everything within our power to resubmit this to the property taxpayers in 1969. And if they are willing, the work will get under way and we will clear up our part of the mess in Pearl River.

I would like to submit this folder to the panel for the record.

MR. STEIN: Thank you, sir. Are there any comments or questions from the conferees?

That was a very excellent statement, Mr. Mayor. I have several little comments. One is that progress is inevitable. I think it is very important that you have sanitary sewers in the town, because I was here in those days, too, and just riding through, I can recognize the improvements you have made. But I think the people of the town have to recognize that once you put in these sewers, what you're doing is increasing river pollution and not decreasing it, because you're moving the waste to the river and you're just moving it somewhere else. That makes it really an acute State and Federal responsibility.

The other thing I would like to point out is that of recognizing the problems that you have in the city. I am very sympathetic with your financial and other problems in the city.

Goodness knows, I think the record speaks for itself. The administration of Bogalusa has tried. We have had pollution problems with communities such as yours that have remained static for years. I will be specific -- Sioux City and Saint Joseph, Missouri.

These cities, by one means or another, getting together with the State and Federal Government solved their pollution problems. I am not saying this is the only thing they have done. Once the problem was solved new industry and new population came into the city and the tax base rose.

Now, recognizing the difficult problem you have, one of the problems with industry is that no industry likes to move into a city with a pollution problem. No one likes to buy into a potential lawsuit or a future problem.

If you have that solved, you will find that you are going to attract more industries. I say this to all the people in the room because we have demonstrated this over and over again. In these cities -- and we have a record of them -- which have remained static since the twenties when they solved the sewer problem, the road problem, the cleaning up of some of the decrepit areas and the street problem, we have found that the cities were on the move again.

I am sure you can be, too. There is one other point that I would like to make. This is a slightly technical point. These planning funds -- and the Fort Worth regional office, which you spoke about, is an agency other than ours. However, I have worked with these people for many, many years. Hopefully before we adjourn, we would like to come up with a cooperative municipal-industrial-State-Federal program. We will do all we can to help you with that planning in advance and getting that if it goes through.

Now, I can say, again, we have not been without influence before. I think if we give that other agency an indication that we regard this as we do -- and I would like to hear from the State, too -- as one of the high-priority items, that carries some weight.

So we are not just here to tell you to do something. We are trying to help. Of course, we do have -- possibly some people

may think it is not enough -- but we do have Federal funds to match you in the construction for this job. Again, we will do everything we can to help you.

I think the mayor has outlined this problem in a very clear fashion, and I know what some of the theoretical problems are -- municipal versus State rights versus Federal authority, etc.

I would like to say that I think we all have the same objective here. There is no real controversy in what we have to do. I think the conceptualism on differences is possibly not going to move the program forward.

There is enough work for all of us. It is going to take the State, the city, the industries concerned here and the Federal Government, all working together and not being picky about little points, to try to get this going. Then we can get your problem solved.

Now, mayor, I believe Bogalusa has been here a long time and it is going to be here a long time. Your problem is not going away. I would agree with you this is a real Federal problem; it is an acute Federal problem. If you are going to grow, the Federal Government, the State and the city all have to recognize that we have to get that river cleaned up and keep it clean.

MAYOR SIEGELIN: Thank you. I appreciate that.

MR. TRYGG: I might comment that Bogalusa has carried the highest priority as far as your State has been concerned and will continue to carry that high priority.

MAYOR SIEGELIN: Thank you, John.

MR. STEIN: Are there any other comments or questions?

MAYOR SIEGELIN: If there are any technical problems, the work superintendent and city engineer will be here to answer those. And if you will excuse me and the council at this time, we have budgetary problems.

MR. THOMAN: Thank you very much. Mayor Siegelin, I'll see that you get a copy of that first transcript.

MR. STEIN: Are there any Representatives, congressional Representatives here who want to make a statement, or Representatives of Congressmen or Senators?

Well, I have a letter here from Congressman William Colmer.

"My dear Mr. Stein,

"Thank you for this opportunity to make this statement to the reconvening session of the Pearl River Enforcement Conference.

"I regret a previous commitment would not permit me to join with you in Bogalusa today, however, I feel the importance of this meeting warranted at least this written presentation.

"Since my home of Pascagoula is located on the Mississippi Gulf Coast, I have always been extremely aware of the many uses of our great water resources.

"For a number of years, I have been interested and actively involved in the development of the Pascagoula and Pearl River Basins in Mississippi.

"The water management district covering these two basins has included as one of its major programs the area of pollution control and abatement, indicating the realization of this all-important area.

"A great number of persons and organizations are becoming involved with pollution control. This is certainly a great step forward, along with the active participation of our own Air and Water Pollution Control Commission.

"I trust that we can look forward to increased development in this vital area.

"With best regards, I am, sincerely yours," (Signed)"William M. Colmer, U. S. House of Representatives, Washington, D. C."

You know, in Washington, I always say, until I get to the office and answer the phone, I never know which one of my bosses is going to call up. All the Congressmen and Senators are among the bosses, and Mr. Colmer is one of the most influential, as you may know. We are very, very happy to get this letter from him. I believe, again, with his interest in this problem, you may be assured that we are all going to have a strong ally in effecting a solution to it.

We will now go back to the program. May I call on Mr. Thoman from the Federal Government. Mr. Thoman.

MR. JOHN R. THOMAN (Director, Southeast Regional Office, U. S. Department of the Interior, Federal Water Pollution Control Administration, Atlanta, Georgia): Thank you, Mr. Stein. At the first session of the conference, which was held in New Orleans, a

transcript was prepared. There are still some copies of that available. If anyone wishes to have one, if they would let Mrs. Burrell know at the desk outside, we will see that a copy is sent. At that time, the water pollution control effort was in the Department of Health, Education, and Welfare and a report was presented.

It seems superfluous to present the same report or very similar report at this meeting. As a consequence, the water pollution control program now in the United States Department of the Interior in the Federal Water Pollution Control Administration will not present a report at this time.

We do, however, have a statement from Mr. Stanley D. Ratcliffe, regional shellfish consultant of the Consumer Protection and Environmental Health Service of the United States Public Health Service. Mr. Ratcliffe.

MR. STANLEY D. RATCLIFFE (Regional Shellfish Consultant, U. S. Public Health Service, FDA, Dallas, Texas): Mr. Stein, other members of the conference and interested representatives to the conference: I am here representing the Consumer Protection and Environmental Health Service of the United States Public Health Service.

Health is a major concern in the matter of controlling pollution in the Pearl River. The Pearl River has a potential for becoming a natural recreational playground.

The Mississippi Sound, in addition to offering recreation, is also an oyster-producing area and likely to become even more productive. The value of these great water resources must be protected. So must the health of the people using them.

The Public Health Service has long been in the business of protecting the public health and in assisting others to protect the public health. We are, therefore, seriously and intimately concerned with water quality as it relates to health.

On September 1, 1966, President Johnson approved an Inter-departmental Agreement between the Department of Health, Education, and Welfare and the Department of the Interior. This agreement sets forth the responsibilities of the two Departments in the field of water pollution control.

Under this agreement, the Surgeon General of the Public Health Service shall provide consultation, advice and assistance relative to the health aspects of water pollution, especially as it affects man's drinking water; water contact in recreation and work; to the contamination of food sources, particularly shellfish; and to specific insects and vectors of disease.

Under this agreement, the Public Health Service also reviews proposed State water quality standards and makes comments and recommendations to the Federal Water Pollution Control Administration with respect to health aspects.

Rivers, lakes, streams and estuaries are a major part of our water recreational playground. Enjoyment of these waters should not be marred by mishap, nor should it be marred by disease or sickness.

Recreational waters should and must be maintained in both quality and condition for the full enjoyment of our people.

In reference to protection of shellfish-growing waters, it has been agreed that the Federal Water Pollution Control Administration will submit to the Public Health Service for review a construction grant application for waste treatment facilities and Federal installations whose operation may adversely affect shellfish-growing waters.

In such reviews, the Public Health Service, in cooperation with the State shellfish control authorities, provides the Federal Water Pollution Control Administration with information regarding the species, quantity of shellfish and the location of the beds in relation to the treatment facilities outfall with comments concerning the effects which might be expected to the growing areas.

Recommendations are also made to incorporate in the sewerage system design criteria devices and safety features which may be expected to provide maximum reliability for uniform quality of the effluent of the waste treatment plant.

The Public Health Service has been involved in the National Shellfish Sanitation Program in cooperation with the States, other Federal agencies and the shellfish industry for more than 40 years.

The major objective of this program is to assure continued safe use of shellfish for human consumption and to encourage water quality programs which will preserve potential shellfish-producing areas for this beneficial use.

Since shellfish concentrate bacteria, viruses and chemicals, shellfish-growing waters must meet strict quality requirements to assure that shellfish are safe for human consumption.

The National Shellfish Sanitation Program is vitally concerned with the maintenance of healthy estuaries for the continued development and propagation of many species of fish and shellfish -- in this particular case, the production and harvesting of oysters from the growing waters of Mississippi Sound.

Improvement in water quality of the Pearl River, to the level that will meet the stream standards developed by the States of Louisiana and Mississippi and approved by the Federal Water Pollution Control Administration, will assure that the water quality in the Pearl River will be satisfactory for recreation and will not adversely affect the shellfish-growing waters in Mississippi Sound.

Because of the degradation of water quality in the Pearl River and the discharge of raw sewage and partially-treated industrial wastes and its potential effects on the health of the public, the Public Health Service supports the several State and Federal agencies in their efforts to abate and control the industrial and domestic pollution being discharged into the Pearl River.

This control action should be carried out to the greatest extent practicable within technical, economic and reasonable limits. That concludes our statement.

MR. STEIN: Thank you. Are there any comments or questions?

MR. THOMAN: Thank you, Mr. Ratcliffe. We have with us today representatives of the U. S. Corps of Engineers, the Mobile District, and from the Coast Guard District Office in New Orleans.

I understand that neither the Corps nor the Coast Guard wish to make a statement at this time. Are there representatives of any other Federal agencies that might wish to make a statement? (No response).

MR. THOMAN: There being none, and since most of the other points on the conference recommendations from the first session will be covered by the States in their presentations, this concludes the Federal presentation, except for discussion of the one summary item -- that was strictly a Federal responsibility, and that was the installation of an automatic monitor on the Pearl River below the city of Bogalusa.

I understand that a site has been selected, after consultation with the States, and that such a monitor will be installed within the very near future. That's all I have.

MR. LAFLEUR: I have a question. I think I know, Jack, but just for the record and for the information of the interested parties here, monitoring what? Is that dissolved oxygen or what?

MR. THOMAN: Dissolved oxygen, temperature, pH and other parameters.

MR. STEIN: Are there any other questions or comments?

MR. THOMAN: I believe this is being coordinated with John on the bacteriological examination, is that correct?

MR. TRYGG: Right.

MR. STEIN: Does that conclude the Federal presentations?

MR. THOMAN: Yes.

MR. STEIN: At this point, we would like to call on Louisiana. Mr. Lafleur.

MR. LAFLEUR: Thank you, Mr. Chairman. The next person, then, will be Mr. James Coerver of the Louisiana State Department of Health, New Orleans, Louisiana.

MR. TRYGG: May I speak before Jim?

MR. LAFLEUR: Mr. Trygg has indicated he would like to speak before Mr. Coerver.

MR. JOHN E. TRYGG (Director, Bureau of Environmental Health, Louisiana State Department of Health, New Orleans, Louisiana): The State Health Department presentation will be more or less in two parts. We are vitally concerned with the Pearl River and the Mississippi Sound from the point of view of oyster growing and recreation.

I would like to discuss the general program of the State Health Department in the State of Louisiana, so that those here in attendance can see what we are doing in other places as well as in the Bogalusa area.

The Louisiana State Department of Health began an intensive program to get primary and secondary treatment for all sewage being discharged, all raw sewage being discharged, in Louisiana in May of 1966.

This involved some 44 communities over the State. This accelerated program was developed around the Resolution of the State Board of Health that said in essence, that the State Board of Health opposed the discharge of untreated or inadequately treated sewage to the streams of our State and further required or requested that each of the municipalities be written a letter asking them to give their plan for treatment of sewage within a period of 90 days.

Now, following the passage of this Resolution, such a letter was written to 44 communities and the results of that letter were very good.

Thirty-seven of the communities, with a total population of 1,284,000 or 96.3 percent, wrote back stating that they would provide facilities. Seven, with a population of 49,000 or 3.7 percent, did not give a satisfactory reply.

Twenty-three of these, with an approximate population of one million, said that they had already arranged financing. Fourteen, or 61 percent, said they were already under construction or already developing plans.

And four, with a population of roughly 18,000, or 13 percent had already completed their facilities.

Bogalusa is one of the seven communities from which we did not receive a satisfactory plan for pollution abatement. However, I want to hurry and state Bogalusa was one of the first to tell us that they were going to provide complete treatment.

Unfortunately, Bogalusa has not been able to float the financing for the desired facilities. And you heard the complete story from Mayor Siegelin this morning. And as a matter of record I want to point out that I have worked with Mayor Siegelin for a long time, as he has indicated, and he has always been for pollution abatement.

The State water pollution plan calls for primary and secondary treatment or its equivalent for all municipalities by 1972. So this is the final target they were shooting at.

Again, I want to state that Bogalusa has had the highest priority with our State Health Department and will continue to enjoy that priority.

Now, I would like to have Mr. Coerver, who is the head of my Engineering Division, discuss matters on equality of the stream.

MR. STEIN: Let's see if there are any questions. Are there any comments or questions?

MR. THOMAN: No questions.

MR. STEIN: While he is coming up, I want to say, we certainly appreciate that, Mr. Trygg. In listening to Mr. Trygg and Mr. Lafleur and in judging this, on the basis of programs of the country as a whole, I think Louisiana has as progressive and well considered a program to move forward in this area as any about which I know. I have worked with these men for many years and we have Mr. Biglane who used to be here, who is working with us up in Washington now on our program.

I know that you couldn't have better professionals in charge of the staff than Mr. Trygg and Mr. Lafleur. I would like to say this here because I know sometimes in the State that you do not recognize the national regard with which these people are held by the profession throughout the country.

And I think these two gentlemen are two of the most outstanding officials in State government working in the field with us.

MR. JAMES F. COERVER (Head, Engineering Division, Louisiana State Department of Health, New Orleans, Louisiana): Mr. Stein and conferees: Starting toward the end of last August, we began again our surveillance activities on the Pearl River, lower Pearl River and the Mississippi Sound.

Our efforts have been aimed primarily at monitoring bacteria count, although we have also been gathering information on other parameters such as dissolved oxygen, fluoride and the like.

We have found that bacteria counts in the lower Pearl River are essentially unchanged from those cited in our 1962 report.

We have also extended our survey work, as I mentioned, out into the Mississippi Sound. And we find that bacteria counts out in the Sound are well within the safe limits for oyster harvesting.

However, it was pointed out in our 1962 report, the bacteria count in the lower Pearl River was far from satisfactory. And as population grows, etc., we could expect a threat from this source.

We have been hoping to carry on our studies during high-flow periods during the Pearl. We were hampered during our studies in 1960, 1961 and 1962 by the lack of cooperation on the part of

the river in rising to flood flows, so to speak, when we had the resources available to test the effect of the Pearl on the Mississippi Sound during flood flow, but we have not been able to accomplish that as yet.

Now, in our recent studies, we found one unusual problem that we really hadn't given much consideration to before. We attributed all of the bacteria to domestic sewage pollution.

And our recent studies indicate that there may be some problems involved along the bacteria line in regard to paper mill waste. Results in bacteria counts so far have been very erratic and sometimes we get very high counts.

But it is hoped, of course, that when secondary treatment is provided for the paper mill waste that this problem will be satisfactorily resolved. So in summary, let me say, that we have found bacteria counts in the Pearl not a great deal different than that reported in 1962 and with bacteria counts far higher than we would like to see.

MR. STEIN: Thank you. Are there any questions or comments?

MR. TRYGG: Mr. Stein, I would like to ask Mr. Coerver two questions. Mr. Coerver, would you consider the coliform content in the Pearl River below Bogalusa, immediately below Bogalusa, to be too high for recreational purposes?

MR. COERVER: Yes, I would.

MR. TRYGG: The second question -- you made a comment on the coliforms or the bacteria from the mill -- mill wastes. Do you believe that these are harmful coliforms or is this a matter of confusing the picture?

MR. COERVER: I think it's a matter of confusing the picture. I don't see how coliforms in the paper mill wastes could be an indicator of the presence of disease organisms, which is, of course, what we are primarily concerned with. And, of course, we use coliforms which is not a disease organism as our indicator. And if we have a waste that we don't associate with disease organisms discharging numbers of our indicator organisms, it can certainly cloud the picture.

MR. STEIN: Are there any other comments? I think you have raised a very, very interesting problem and one that is rather difficult. I hope that by putting this program into operation now we can solve it and with your continuing study come out all right.

But again, I am going to speak for the public record here: Next week, we are going to have almost the same kind of problem on coliforms on Lake Champlain where we are grappling with the same problem with a major paper company up there. For example, in the Detroit area there is another major company, and the solution there for good or ill was that the paper company had to disinfect its waste.

Now, the kind of problem also that we had -- and this is, I think, the kind of example that you pointed out, as the population

grows this is not susceptible -- the problem may increase if nothing gets done.

The waters of the Penobscot Bay in Maine were open to most shellfish until about the end of the war. Since about 1948 until about 1960, gradually coliform has gotten higher and higher and the States keep closing the bay.

When we went in there -- by the time we got in there -- there were two significant pulp and paper operations; two poultry plants had come in and you had various towns. When we finally shook that problem loose, the solution that the pulp and paper plants came to was that two of the plants suspended pulping operations.

No one wants to clean up a pollution problem that way. Anyone can clean up the pollution by the industry closing down. That means a consequential loss of jobs and economic impact on the area. I understand in that area up to about a thousand jobs may be directly entailed.

Now, when we face something like that -- and you have talked about a potential problem to shellfish -- before the problem gets serious, I think the issue is that now is the time for the industries and the municipalities in the Pearl River area and around Bogalusa to get at the problem because the law has been changed since the last conference.

We do have specific Federal responsibilities in protecting shellfish. I would hope that we can prevent that problem from developing in this area, because when that happens our experience

has been that sometimes drastic action is necessary and it can be too late.



So I would suggest that the people here give very, very careful consideration to the type problems that other areas have faced. Before this problem increases so that it's either going to require a tremendous amount of money to clean up or some other more drastic action such as closing up, I also suggest that we get on this problem now and try to protect the area.

As the speakers have indicated, I am sure if you can protect our waters here around Bogalusa for recreation and they will be safe for recreation and water-contact sports, you can be reasonably certain that you are not going to affect those shellfish down below. We get the benefits all the way down the line. We get this worked in and financed in a way that we can keep growing and we don't have to come back to a community to have some drastic surgery for a really bad problem. I think this is a very important point.

MR. THOMAN: One question to clarify the record. Your presentation referred to total coliforms and not fecal coliforms, is that correct?

MR. COERVER: That referred to both.

MR. THOMAN: You are referring to both. In the water quality standards does Louisiana have a fecal coliform criteria?

MR. COERVER: No, we don't. We have found such unsatisfactory results, particularly in the coastal areas with the use of fecal coliform standards, that we don't use it now.

There have been a number of reasons for that. Some researchers have reported the entire feces in the intestinal tract of certain marsh animals consisted almost entirely of fecal coliforms. And these, of course, have no known relation to public health whatsoever, but certainly they can alter fecal coliform counts and completely disrupt your evaluation procedures.

MR. STEIN: Let me go off the record.

(Whereupon an off-the-record discussion was held.)

MR. TRYGG: I would like to go back on the record. The Louisiana program has been based as much on sanitary surveys as it has been on coliform tests. And when it is obvious that you have a serious source of pollution that could cause disease, you don't really have to worry about the coliforms or the fecal coliform -- you go ahead and correct the thing and then check back and see what you have got. The sampling is incidental to the sanitary surveys all over the United States.

MR. STEIN: As you know, I subscribe to that. I guess we were brought up in the same school. Are there any questions?

MR. THOMAN: No.

MR. STEIN: Thank you very much.

MR. LAFLEUR: Mr. Chairman, our next speaker here this morning with a statement for presentation to the conference is Dr. Herman Amberg, representing the Crown Zellerbach Corporation here in Bogalusa. Dr. Amberg.

MR. STEIN: He is not going to tell you this, but Dr. Amberg is an old friend and associate who is, I guess, if we had an internationally-known expert on pulp and paper mill wastes and the problems of the industry, it is Dr. Amberg. If it is knowledge, knowhow and background we are looking for, Dr. Amberg is the man. I guess the way our country is constituted, I don't know, well, in the Government, we can't afford this. I'm glad Crown Zellerbach can.

DR. HERMAN AMBERG (Manager, Manufacturers Services, Crown Zellerbach Corporation, Camas, Washington): Thank you, Mr. Stein. Mr. Chairman and conferees. My name is Herman Amberg. I am manager of Manufacturing Services at the Central Research Division of Crown Zellerbach Corporation.

My professional qualifications include a bachelor's degree in chemical engineering, master and doctorate degrees in sanitary engineering and some 18 years of experience in the field of water quality control.

At the invitation of the Louisiana conferee (the Louisiana Stream Control Commission), I have been asked to present Crown Zellerbach's water quality program since the last conference held in October 1963.

The Bogalusa Division has worked closely with Mr. P. Lafleur of the Louisiana Stream Control Commission to design and construct treatment facilities which would meet the water quality requirements of the State as well as the recommendations of the 1963 Federal-State conference.

In fact, more than \$1.2 million have been expended in the interim period to meet these requirements.

The progress report which I am going to present describes existing treatment facilities at our Bogalusa Division, as well as the effects of waste treatment on the water quality and aquatic resources of the Pearl River.

The Bogalusa Division in 1963 constructed treatment facilities to remove settleable material from its effluents prior to discharge into the Pearl River. This plant has been in continuous operation since May 1964.

We have invested \$1,027,000 for these external waste treatment facilities, as well as substantial sums for internal mill improvements designed to minimize loss of fibers.

The annual operating costs for the waste treatment facilities, exclusive of the amortization on investment, amounts to about \$110,000.

A photograph of the 300-foot diameter clarifier is shown on the cover of this report. A schematic diagram of the treatment plant is shown in figure 1. (See page 57.)

The mill effluents are collected at a pumping station on the mill property. The pumping station is designed to receive all of the mill wastes and pump them through a 54-inch reinforced concrete force main to the treatment plant, a distance of 5,500 feet.

Now, sedimentation occurs in a 300-foot diameter clarifier equipped with a mechanism which moves the sludge to a center sump. From the sump the sludge is pumped to two large centrifuges for dewatering to a consistency of about 20 percent.

The partially dried material is then conveyed to a landfill area for disposal. Following sedimentation, the effluent flows through an aeration basin containing four large surface aerators.

Sufficient dissolved oxygen is added to the waste to satisfy any immediate oxygen demand and to saturate the effluent with dissolved oxygen prior to its discharge from the treatment plant.

The results of treatment have been gratifying in that more than 90 percent of the suspended material has been removed from the wastes discharged to the Pearl River.

The primary treatment plant removes 20 percent of the BOD and the average BOD discharge for 1965, 1966 and 1967 low-water seasons was 54,200 pounds per day which is substantially below the State requirement of 62,000 pounds per day.

To ensure that the water quality of the Pearl River will be maintained, we have installed continuous monitoring stations above and below the mill. The upstream station is located at Lakeview about three miles above the confluence of Bogue Lusa Creek and the Pearl River. And the second station is located at the critical point some nine miles below the mill at Pooles Bluff. Both stations are located on the steep bluff side of the river to avoid stagnation

and bottom shifts.

The cost of these two monitoring stations was \$38,300. Water temperature and dissolved oxygen are measured at Station 1 and water temperature, pH, dissolved oxygen, conductivity, sunlight intensity and turbidity are measured at Station 2 at Pooles Bluff.

A picture of the Pooles Bluff monitoring equipment is shown in Figure A, appended to this report.

The sensors at both river stations are continuously measuring their respective parameters and these data are available for transmission on command over a standard telephone line.

The recording equipment is located in the mill laboratory. It consists of the 12-point-strip-chart recorder shown in Figure B of the appendix, which is synchronized with the telemeter signaling equipment.

Readings are taken from each of the sensors every six minutes and telemetered to the laboratory. Any deviation from the norm can rapidly be detected.

Now, there has been a substantial improvement in dissolved oxygen of the Pearl River below Bogalusa since primary treatment was installed in 1964. The summer data collected in 1965, 1966 and 1967 have been summarized in Table 1, which is shown on this page. (See P.59)

The effectiveness of the treatment plant is clearly shown in the above table. The difference between the 1963 and 1965 data is attributable primarily to the elimination of the extensive sludge

deposits below the mill in 1965, with a subsequent reduction in the oxygen demand of these bottom deposits.

The improvement brought about by the elimination of the sludge beds amounts to about 0.7 parts per million. The average dissolved oxygen data for 1966 have been plotted and the dissolved oxygen profile is shown in Figure 2. (See P. 60)

These are not isolated dissolved oxygen determinations but are average values of 3,000 individual tests taken during July, August and September of 1966.

The average dissolved oxygen above the mill was 5.8 parts per million and this value dropped to 3.5 parts per million at Pooles Bluff, nine miles below the mill.

In spilling over the dam at Pooles Bluff, the water absorbs 1.9 parts per million of oxygen, which results in a dissolved oxygen of 5.4 parts per million directly below the dam.

There is a gradual decrease downstream of the dam, but the dissolved oxygen never drops to the level recorded above the dam. Because of the high streamflows during the summer of 1967, the data have not been plotted.

The average streamflow during June, July and August 1967 was 3,266 cubic feet per second, and the average dissolved oxygen at Pooles Bluff was about four parts per million.

The dissolved oxygen content of the water coming to the mill is quite variable, at times dropping below five parts per million. Data collected to date for a considerable distance above the mill also indicate that the rate of reaeration of the Pearl

River throughout this stretch is extremely low.

To attain a better understanding of conditions as they presently are, we would like to present data depicting the dissolved oxygen concentrations as they existed above the mill during June through October 1966.

These data were chosen since streamflow was very uniform during this period, averaging about 2,300 cubic feet per second. The data plotted in Figure 3, again, are not isolated dissolved oxygen determinations, but are average values of about 1,500 individual tests taken by the continuous monitor. (See P. 62)

The data plotted on probability paper show that 50 percent of the tests above the mill were less than six parts per million and 10 percent were less than 5.5 parts per million.

If we take an average summer water temperature of 81 degrees Fahrenheit, we can expect that 10 percent of the time the water coming to the mill will be less than 68 percent saturated with respect to oxygen.

In other words, 32 percent of the oxygen assets have been utilized above the mill. It should also be noted that dissolved oxygen levels above the mill have been substantially the same over the last three to four years.

Because of wide variations in streamflow during the summer of 1967, variation in dissolved oxygen was somewhat greater than in previous years. Generally speaking, during periods of low streamflow, it is not unusual to have a great number of dissolved

oxygen observations vary within the range of five to six parts per million above the mill.

Because of the wide variation in the dissolved oxygen values above the mill and because the values often drop below 5.5 parts per million, it was thought imperative to devise a system which would restore the oxygen assets to saturation.

Experimentation conducted by the mill in the summer of 1967 indicated that reaeration with molecular oxygen would be a feasible method of restoring oxygen to the water above the mill.

A diagram of the final oxygenation system placed in operation during June of this year is shown in Figure 4. The system is designed for a seasonal low flow of 1,400 cubic feet per second in the Pearl River. (See P. 64)

Water is pumped from Bogue Lusa Creek near Richardsons Landing at a rate of 10,000 gallons per minute and a head of 204 feet.

Oxygen is introduced into the 14-inch diameter pipeline through a series of spargers. Under these conditions the water will become supersaturated in respect to oxygen.

The supersaturated river water is then returned to the river by means of a diffuser header placed at the bottom of the river and extending about 160 feet across the river.

An absorption efficiency of 40 to 50 percent has been obtained and we have added up to two parts per million of dissolved oxygen to the Pearl River below Richardson's Landing.

The average dissolved oxygen at Richardsons Landing during critical low-flow periods has been increased from about 6.0 parts per million to 8.0 parts per million by the addition of 15,000 pounds per day of dissolved oxygen.

This improvement has resulted in a general improvement in the dissolved oxygen profile below the mill. Since we do not anticipate an increase in BOD load, the addition of 15,000 pounds of dissolved oxygen per day can only have a beneficial effect on the Pearl River below Bogalusa.

The installation shown in Figure 4 has been constructed at a cost of \$120,000. Assuming an operation period of 90 days, operating costs will amount to \$60,000. (See P. 64)

We have discussed the application of stream reaeration with the technical staff of the Louisiana Stream Control Commission and the system designed meets with their approval.

The Bogalusa Division has obtained the services of fishery biologists to conduct a comprehensive survey above and below the mill. The primary purpose of this survey was to determine the condition of the Pearl River area affected by the mill effluent.

We have summarized the summer data from 1964 through 1967, which covers a total of 14 surveys. The survey has concentrated on the fishery resource, as it is our contention that as long as the species of aquatic life that is important to man (the fishes) is in satisfactory condition, variations in the makeup of

the aquatic community leading to such a satisfactory condition is not of primary importance.

Before we take a look at these data, it will be worthwhile to briefly describe the survey techniques used and the stations surveyed.

The primary survey area included six fish-collection stations extending from about two miles above the mill to a short distance below Pooles Bluff, some nine miles below the mill.

Collections were obtained with a 10-foot nylon seine, six feet in depth, and 1/8 or 3/16 inch mesh. All collections were made at night, because night seining has been shown to be far superior to conventional day seining.

The data which we will present cover the critical summer-fall period from June through October, a period when streamflow and dissolved oxygen contents were low.

It should be noted also that all of the stations in the primary collection area are not exactly comparable. For example, Station Number 6, which is directly below the Pooles Bluff Dam, has a gravel bottom compared to sand bottoms at the other stations.

Although there are unavoidable differences in the habitat at the various stations, we believe our data will show that conditions below Bogalusa are such as to support a well-balanced fish population.

Before getting into the specific survey results, we would like to present some general findings in regard to the primary study area.

In 1964 a total of 71 different species of fish were collected at the six stations; during 1965 a total of 63; during 1966 a total of 60; and during 1967 the total was 63.

Many species were found to be spawning within the area below the introduction of the mill effluents and many direct observations and subsequent appearances of fry and young were proof of the fact that fish propagation was not being adversely affected.

The channel catfish was found to be almost four times as abundant directly below the introduction of our effluent than at the "control" station above the mill.

The station directly below Pooles Bluff Dam, some nine miles below the mill, was the richest in composition of fish life and this was primarily due to the diversity of habitats within this area.

Prior to the installation of the primary treatment plant, tubifex, an indicator of septic conditions, numbering into billions were observed directly below the mill outfall to a distance of about two miles below the outfall.

Since startup of the treatment facility, tubifex have been eliminated in the stretch of stream below the mill. The Pearl River has and is continuing to aesthetically improve.

The general statements above indicate that there is no significant effect upon the fish population which can be attributed to the discharge of effluents from the Bogalusa mill.

It should also be noted that most of the observations and collections were made during periods when the dissolved oxygen concentration below the mill ranged from three to four parts per million.

We have additional detailed information which we would now like to present.

The total number of fish specimens taken per survey during the 4-year critical summer-fall period have been calculated and are presented in Figure 5. (See P. 68)

During the 4-year period, a total of 14 surveys were conducted at each of the six stations shown. Although there is considerable normal variability, the data show that good collections have been obtained at all stations and that there certainly is no lack of fishes in the area below the introduction of the mill effluents.

The explanation suggested for the lower number of specimens at Station 2 may be the avoidance of fish of the effluent channeling along the side of the river being sampled.

Although there is an increase in specimens about one mile below the mill outfall, there appear to be no significant statistical differences in numbers of specimens between the "control" and Stations 4 and 5.

The tremendous increase below Pooles Bluff Dam is attributable to changes in habitat. For example, the station

directly below Pooles Bluff contains a shallow gravelly area which provides an excellent habitat for fish.

We have calculated the number of species of fish collected per survey during the same study period and these data are presented in Figure 6. Although there is a decrease in species found directly below the mill, the difference is soon lost as we move downstream and the makeup of the population some four or five miles below Bogalusa is essentially the same as that above the mill. (See P. 70)

It should also be noted that the decrease in species numbers immediately below the mill is made up by a substantial increase in numbers of the commercial species--the channel catfish.

Based upon extensive survey data, biological and chemical, we can state that conditions below Bogalusa are such as to support a well-balanced fish population.

Excellent fish collections have been made during the critical summer-fall season when the dissolved oxygen concentration ranged from three to four and no significant changes in the population could be detected which were attributable to these dissolved oxygen levels.

In addition, evidence of spawning and development of fry and young fish was noted throughout the primary study area.

I think I can conclude very briefly as follows: The Bogalusa Division of Crown Zellerbach early in 1964 completed and placed in operation primary treatment facilities designed to remove settleable solids from our waste-flow discharge to the Pearl River.

Operational data showed that practically all of the settleable solids are removed as well as 20 percent of the BOD. Sludge deposits and the resultant benthal oxygen demand have been dramatically reduced and the river below the mill continues to aesthetically improve.

Based upon extensive survey data, biological and chemical, we can state that conditions below our Bogalusa Division are such as to support a well-balanced fish population.

Excellent fish collections have been made during the critical summer-fall season since the primary treatment facilities went into operation.

To counteract the effects of low-dissolved oxygen concentrations above the mill during the summer and fall low-flow period, an elaborate oxygenation or reaeration system has been installed at Richardsons Landing near Bogalusa which has made it possible to add one to two parts per million of dissolved oxygen to the Pearl River during critical periods of this summer and fall.

To accomplish these achievements, the company has spent more than \$1,200,000 on external waste treatment facilities and is incurring heavy annual operating costs to meet the desired water quality objectives.

The results, however, are gratifying and data collected to date show that the implementation program undertaken meets with the specific recommendations of the conferees to the Federal-State enforcement conference of October 1963.

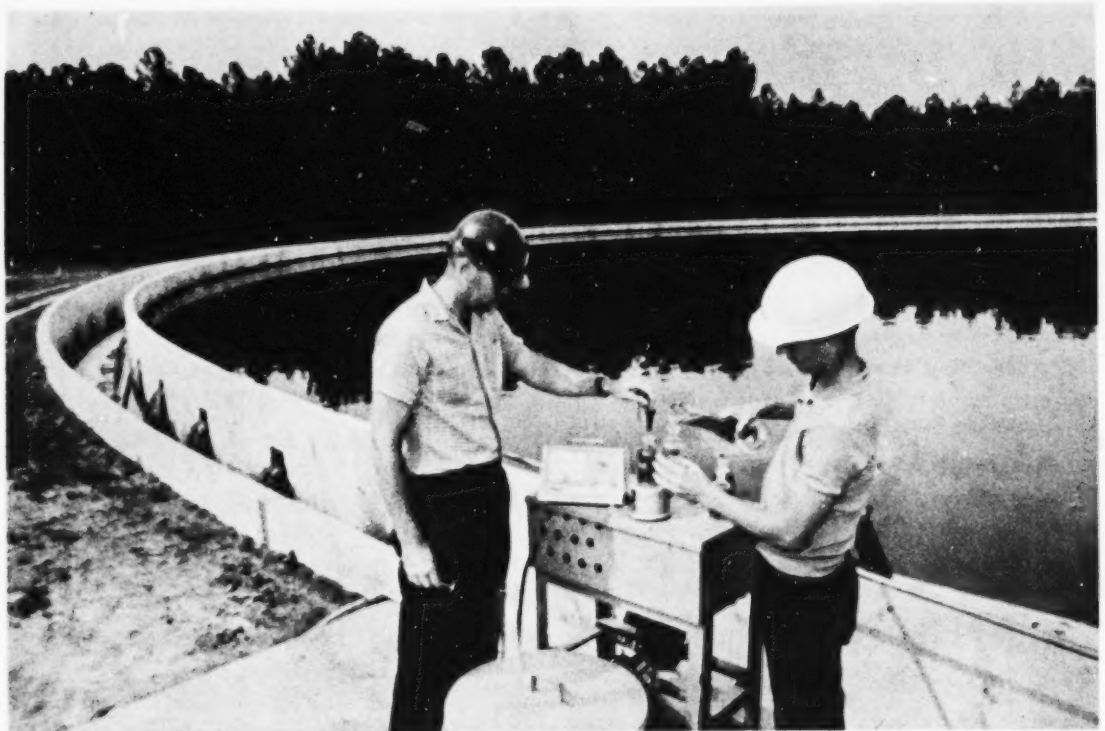
Mr. Chairman and conferees, on behalf of Crown Zellerbach, I wish to thank you for giving us this opportunity to appear here today and tell you of our accomplishments in water quality improvement.

Water quality improvement is a problem of concern to all of us and you can be assured that my company will cooperate in your efforts to maintain the desired water quality in the Pearl River. Thank you.

MR. STEIN: Thank you, Dr. Amberg. Without objection, the report and diagrams accompanying your report will appear in the record.

(Report of Crown Zellerbach Corporation starts on page 52.)

A Positive Water Quality Improvement
Program, Bogalusa Division of
Crown Zellerbach Corporation



PUBLISHED BY
Crown Zellerbach Corporation, Bogalusa Division

A POSITIVE WATER QUALITY IMPROVEMENT PROGRAM,
BOGALUSA DIVISION OF CROWN ZELLERBACH CORPORATION

A Statement Presented at the Pearl River
Federal-State Conference, Bogalusa, Louisiana
November 7, 1968

CROWN ZELLERBACH CORPORATION
Bogalusa, Louisiana

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INTRODUCTION

Mr. Chairman and Conferees. My name is Herman Amberg, I am Manager of Manufacturing Services at the Central Research Division of Crown Zellerbach Corporation. My professional qualifications include a bachelor's degree in chemical engineering, master and doctorate degrees in sanitary engineering, and some 18 years of experience in the field of water quality control.

At the invitation of the Louisiana conferee (the Louisiana Stream Control Commission), I have been asked to present Crown Zellerbach's water quality program since the last conference held in October, 1963. The Bogalusa Division has worked closely with Mr. R. LaFleur of the Louisiana Stream Control Commission to design and construct treatment facilities which would meet the water quality requirements of the State as well as the recommendations of the 1963 Federal-State Conference. In fact, more than \$1.2 million have been expended in the interim period to meet these requirements.

The progress report which I am going to present describes existing treatment facilities at our Bogalusa Division as well as the effects of waste treatment upon the water quality and aquatic resources of the Pearl River.

TREATMENT AND MONITORING FACILITIES

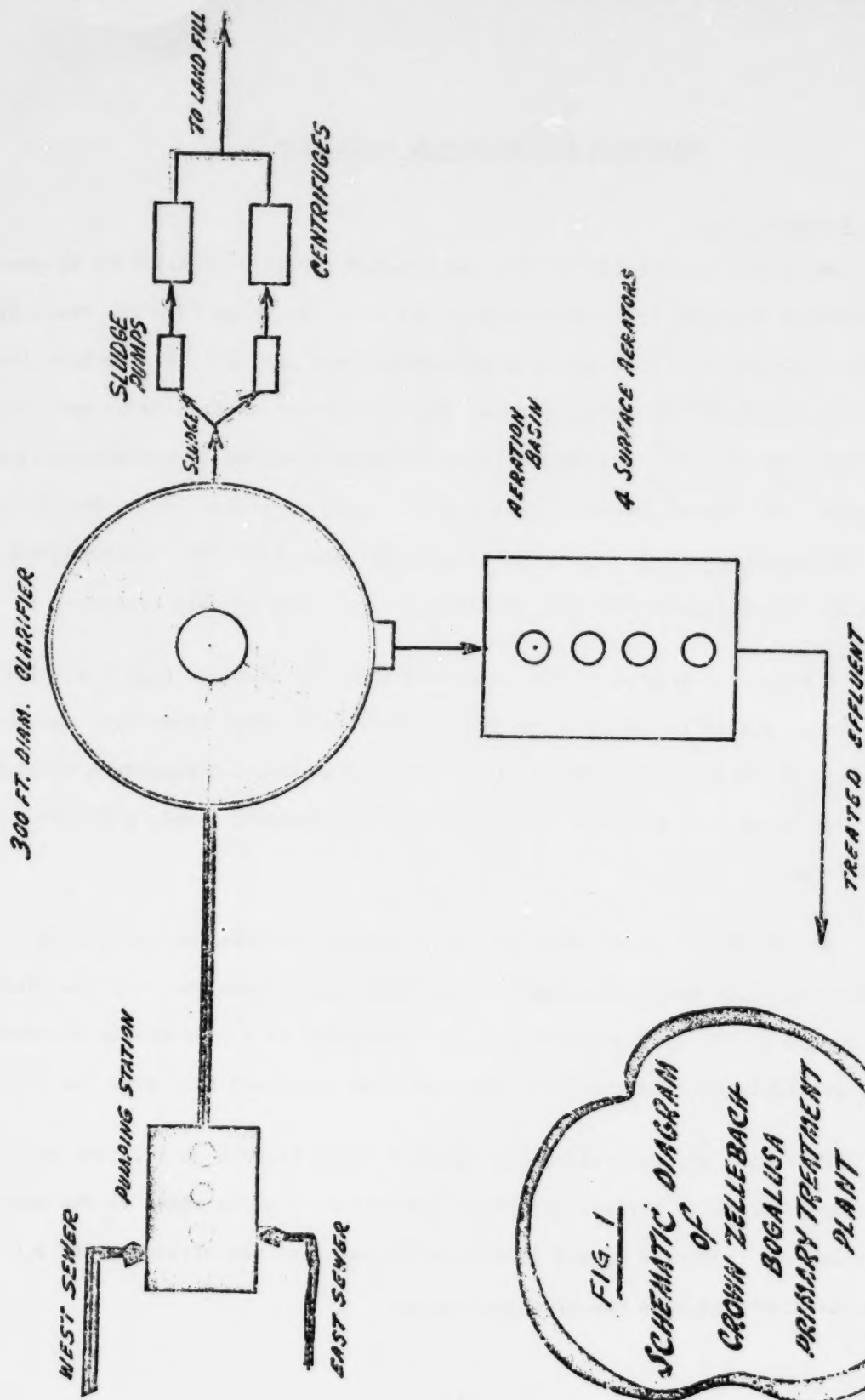
A. Treatment Plant

The Bogalusa Division in 1963 constructed treatment facilities to remove settleable material from its effluents prior to discharge into the Pearl River. This plant has been in continuous operation since May of 1964. We have invested \$1,027,000 for these external waste treatment facilities as well as substantial sums for internal mill improvements designed to minimize loss of fibers. The annual operating cost for the waste treatment facilities exclusive of the amortization on investment amounts to about \$110,000. A photograph of the 300-ft. diameter clarifier is shown on the cover of this report.

A schematic diagram of the treatment plant is shown in Figure 1. The mill effluents are collected at a pumping station on the mill property. The pumping station is designed to receive all of the mill wastes and pump them through a 54-inch reinforced concrete force main to the treatment plant, a distance of 5,500 feet.

Sedimentation occurs in a 300-ft. diameter clarifier equipped with a mechanism which moves the sludge to a center sump. From the sump the sludge is pumped to two large centrifuges for dewatering to a consistency of about 20%. The partially dried material is then conveyed to a land fill area for disposal.

Following sedimentation, the effluent flows through an aeration basin containing four large surface aerators. Sufficient D.O. is added to the waste to satisfy any immediate oxygen demand and to saturate the effluent with D.O. prior to its discharge from the treatment plant.



The results of treatment have been gratifying in that more than 90% of the suspended material has been removed from the wastes discharged to the Pearl River. The primary treatment plant removes 20% of the BOD and the average BOD discharge for 1965, 1966, and 1967 low water seasons was 54,200 lb./day which is substantially below the State requirement of 62,000 lb./day.

B. Continuous Monitoring Stations

To ensure that the water quality of the Pearl River will be maintained, we have installed continuous monitoring stations above and below the mill. The upstream station is located at Lakeview about 3 miles above the confluence of Bogue Lusa Creek and the Pearl River and the second station is located at the critical point some 9 miles below the mill at Pooles Bluff. Both stations are located on the steep bluff side of the river to avoid stagnation and bottom shifts. The cost of these two monitoring stations was \$38,300.

Water temperature and dissolved oxygen are measured at Station 1 and water temperature, pH, dissolved oxygen, conductivity, sunlight intensity and turbidity are measured at Station 2 at Pooles Bluff. A picture of the Pooles Bluff monitoring equipment is shown in Figure A appended to this report.

The sensors at both river stations are continuously measuring their respective parameters and these data are available for transmission on command over a standard telephone line.

The recording equipment is located in the mill laboratory. It consists of the twelve point strip chart recorder shown in Figure B of the Appendix, which is synchronized with the telemeter signalling equipment. Readings are taken

from each of the sensors every six minutes and telemetered to the laboratory. Any deviation from the norm can rapidly be detected.

Dissolved Oxygen Below Bogalusa

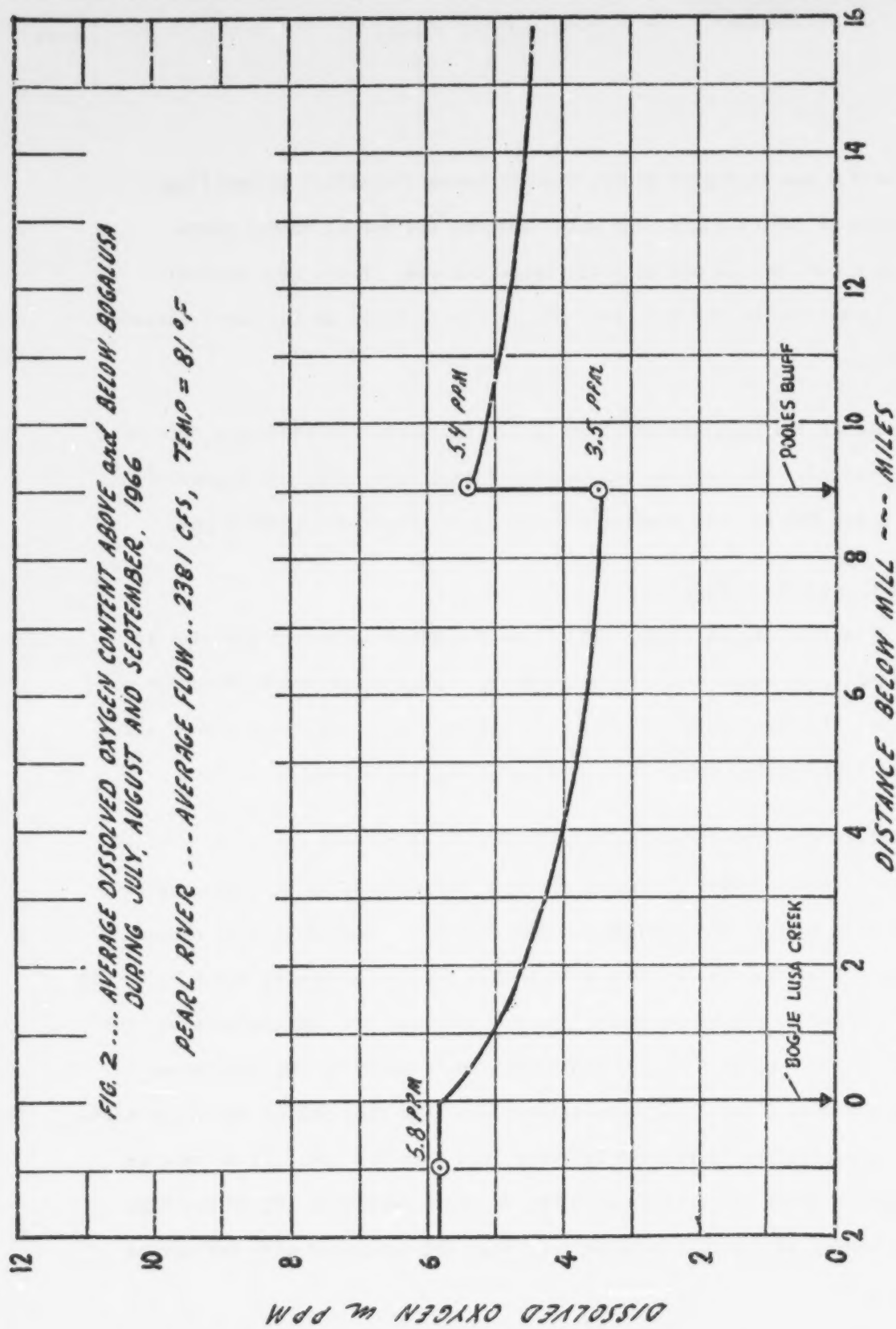
There has been a substantial improvement in D.O. of the Pearl River below Bogalusa since primary treatment was installed in 1964. The summer data collected in 1965, 1966, and 1967 have been summarized in TABLE I.

TABLE I - Summary of D.O. Data, 1963 Through 1967

<u>Year</u>	<u>Average Stream Flow, CFS</u>	<u>Average Water Temp., °F</u>	<u>Average D.O. at Pooles Bluff, PPM</u>
1963	1800	80	2.9
1965	1987	80	3.6
1966	2381	81	3.5
1967	3266	80	4.0

The effectiveness of the treatment plant is clearly shown in the above table. The difference between the 1963 and 1965 data is attributable primarily to the elimination of the extensive sludge deposits below the mill in 1965 with a subsequent reduction in the oxygen demand of these bottom deposits. The improvement brought about by the elimination of the sludge beds amounts to about 0.7 ppm.

The average D.O. data for 1966 have been plotted and the D.O. profile is shown in Figure 2. These are not isolated dissolved oxygen determinations, but are average values of 3,000 individual tests taken during July, August, and September of 1966. The average D.O. above the mill was 5.8 ppm and this value



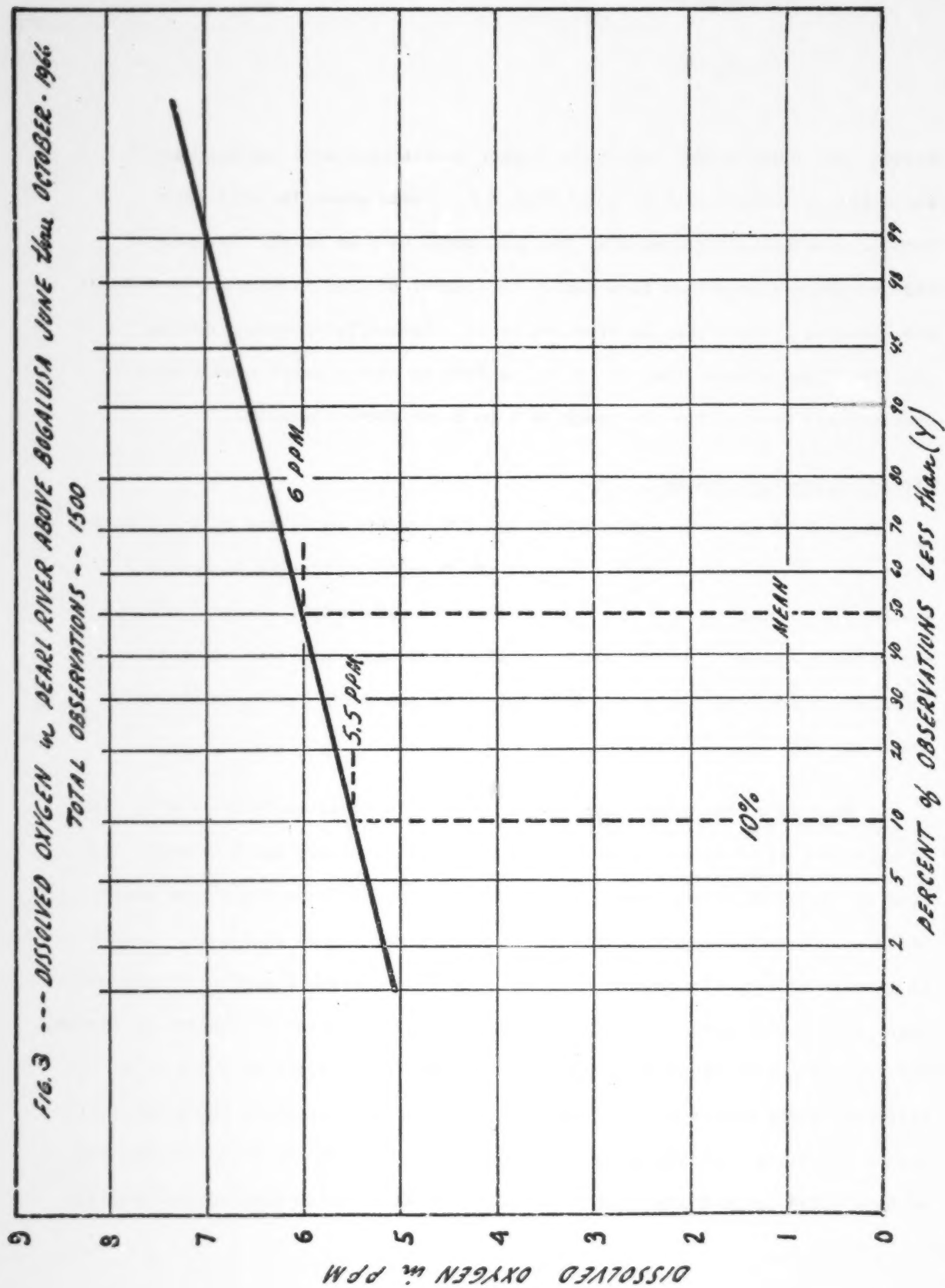
dropped to 3.5 ppm at Pooles Bluff, 9 miles below the mill. In spilling over the dam at Pooles Bluff, the water absorbs 1.9 ppm of oxygen which results in a D.O. of 5.4 ppm directly below the dam. There is a gradual decrease downstream of the dam, but the D.O. never drops to the level recorded above the dam.

Because of the high stream flows during the summer of 1967, the data have not been plotted. The average stream flow during June, July and August of 1967 was 3,266 CFS and the average D.O. at Pooles Bluff was above 4 ppm.

Dissolved Oxygen Above Bogalusa

The dissolved oxygen (D.O.) content of the water coming to the mill is quite variable, at times dropping below 5 ppm. Data collected to date for a considerable distance above the mill also indicate that the rate of reaeration of the Pearl River throughout this stretch is extremely low.

To attain a better understanding of conditions as they presently are, we would like to present data depicting the D.O. concentrations as they existed above the mill during June through October of 1966. These data were chosen since stream flow was very uniform during this period, averaging about 2,300 CFS. The data plotted in Figure 3, again, are not isolated D.O. determinations, but are average values of about 1,500 individual tests taken by the continuous monitor. The data plotted on probability paper show that 50% of the tests above the mill were less than .6 ppm and 10% were less than 5.5 ppm. If we take an average summer water temperature of 81°F, we can expect that 10% of the time the water coming to the mill will be less than 68% saturated with respect to



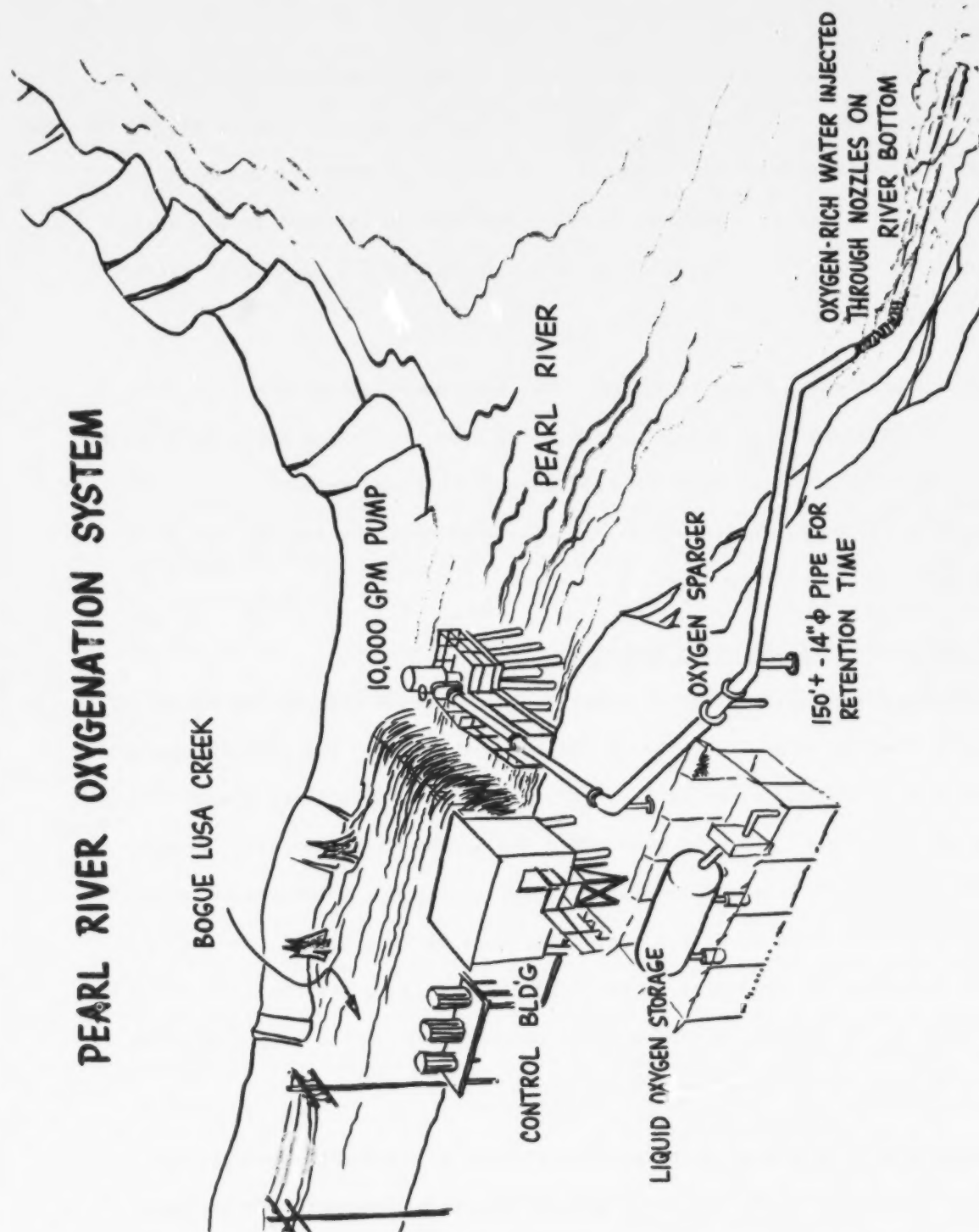
oxygen. In other words, 32% of the oxygen assets have been utilized above the mill. It should also be noted that D.O. levels above the mill have been substantially the same over the last three to four years. Because of wide variations in stream flow during the summer of 1967, variation in D.O. was somewhat greater than in previous years. Generally speaking, during periods of low stream flow, it is not unusual to have a great number of D.O. observations vary within the range of 5 to 6 ppm above the mill.

Stream Oxygenation System

Because of the wide variation in the D.O. values above the mill and because the values often drop below 5.5 ppm, it was thought imperative to devise a system which would restore the oxygen assets to saturation. Experimentation conducted by the mill in the summer of 1967 indicated that reaeration with molecular oxygen would be a feasible method of restoring oxygen to the water above the mill.

A diagram of the final oxygenation system placed in operation during June of this year is shown in Figure 4. The system is designed for a seasonal low flow of 1,400 CFS in the Pearl River. Water is pumped from Bogue Lusa Creek near Richardsons Landing at a rate of 10,000 GPM and a head of 204 ft. Oxygen is introduced into the 14-inch diameter pipe line through a series of spargers. Under these conditions the water will become supersaturated in respect to oxygen. The supersaturated river water is then returned to the river by means of a diffuser header placed at the bottom of the river and extending about 160 feet across the river. An absorption efficiency of 40 to 50% has been attained and we have added up to 2 ppm of D.O. to the Pearl River below Richardsons Landing.

PEARL RIVER OXYGENATION SYSTEM



The average D.O. at Richardsons Landing during critical low flow periods has been increased from about 6.0 ppm to 8.00 ppm by the addition of 15,000 lbs./day of D.O. This improvement has resulted in a general improvement in the D.O. profile below the mill. Since we do not anticipate an increase in BOD load, the addition of 15,000 lb. of D.O. per day can only have a beneficial effect upon the Pearl River below Bogalusa.

The installation shown in Figure 4 has been constructed at a cost of \$120,000. Assuming an operation period of 90 days, operating costs will amount to \$60,000. We have discussed the application of stream reaeration with the technical staff of the Louisiana Stream Control Commission and the system designed meets with their approval.

Biological Survey of the Pearl River

The Bogalusa Division has obtained the services of fishery biologists to conduct a comprehensive survey above and below the mill. The primary purpose of this survey was to determine the condition of the Pearl River area affected by the mill effluent. We have summarized the summer data from 1964 through 1967 which covers a total of 14 surveys. The survey has concentrated on the fishery resource since it is our contention that as long as the species of aquatic life that is important to man, the fishes, is in satisfactory condition, variations in the makeup of the aquatic community leading to such a satisfactory condition is not of primary importance.

Before we take a look at these data it will be worthwhile to briefly describe the survey techniques used and the stations surveyed. The primary

survey area included six fish collection stations extending from about 2 miles above the mill to a short distance below Pooles Bluff, some 9 miles below the mill. Collections were obtained with a ten-foot nylon seine, six feet in depth, and 1/8 or 3/16 inch mesh. All collections were made at night because night seining has been shown to be far superior to conventional day seining. The data which we will present cover the critical summer-fall period from June through October, a period when stream flow and dissolved oxygen contents were low.

It should be noted also that all of the stations in the primary collection area are not exactly comparable. For example, Station No. 6, which is directly below the Pooles Bluff dam, has a gravel bottom compared to sand bottoms at the other stations. Although there are unavoidable differences in the habitat at the various stations, we believe our data will show that conditions below Bogalusa are such as to support a well balanced fish population.

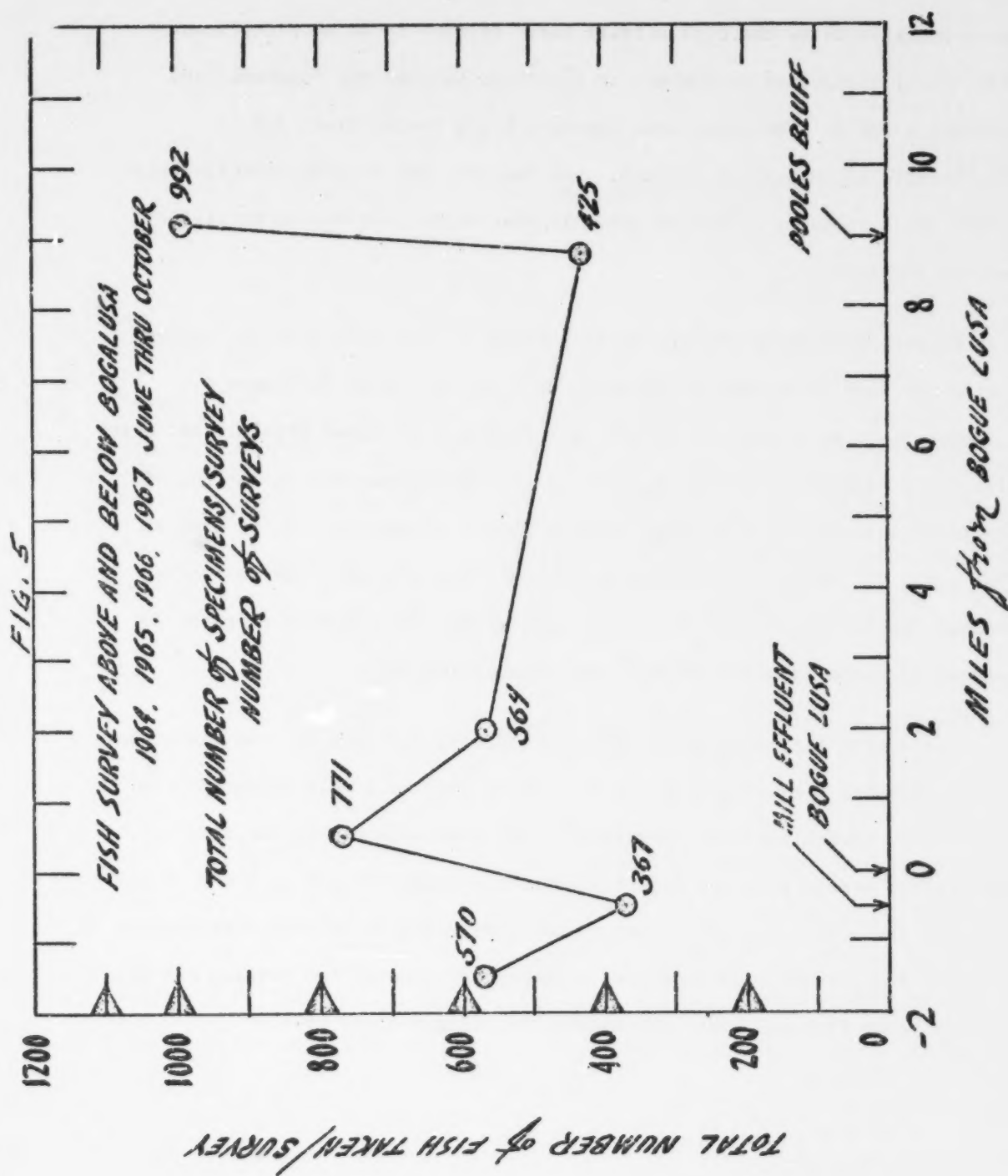
Before getting into the specific survey results, we would like to present some general findings in regards to the primary study area. In 1964, a total of 71 different species of fish were collected at the six stations, during 1965 a total of 63, during 1966 a total of 60, and during 1967 the total was 63. Many species were found to be spawning within the area below the introduction of the mill effluents and many direct observations and subsequent appearances of fry and young were proof of the fact that fish propagation was not being adversely affected. The channel catfish was found to be almost four times as abundant directly below the introduction of our effluent than at the "control" station above the mill. The station directly below Pooles Bluff dam, some 9

miles below the mill, was the richest in composition of fish life and this was primarily due to the diversity of habitats within this area.

Prior to the installation of the primary treatment plant, Tubifex, an indicator of septic conditions, numbering into billions were observed directly below the mill outfall to a distance of about 2 miles below the outfall. Since startup of the treatment facility, Tubifex have been eliminated in the stretch of stream below mill. The Pearl River has and is continuing to aesthetically improve.

The general statements above indicate that there is no significant effect upon the fish population which can be attributed to the discharge of effluents from the Bogalusa mill. It should also be noted that most of the observations and collections were made during periods when the D.O. concentration below the mill ranged from 3 to 4 ppm.

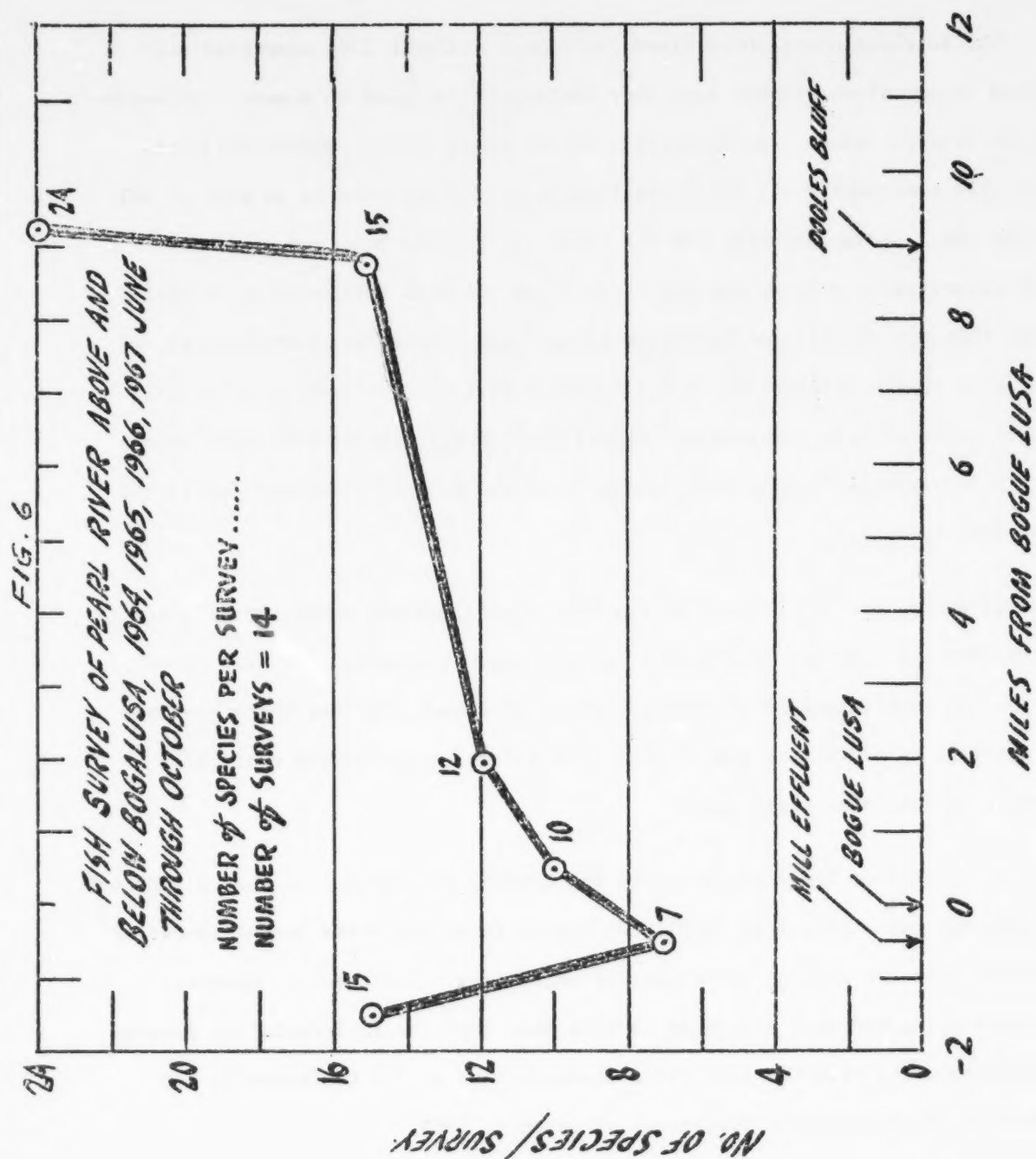
We have additional detailed information which we would now like to present. The total number of fish specimens taken per survey during the four year critical summer-fall period have been calculated and are presented in Figure 5. During the four-year period, a total of 14 surveys were conducted at each of the six stations shown. Although there is considerable normal variability, the data show that good collections have been obtained at all stations and that there certainly is no lack of fishes in the area below the introduction of the mill effluents. The explanation suggested for the lower number of specimens at Station 2 may be the avoidance of fish of the effluents channeling along the side of the river being sampled. Although there is an increase in specimens



about one mile below the mill outfall there appears to be no significant statistical difference in numbers of specimens between the "control" and Stations 4 and 5. The tremendous increase below Pooles Bluff dam is attributable to changes in habitat. For example, the station directly below Pooles Bluff contains a shallow gravelly area which provides an excellent habitat for fish.

We have calculated the number of species of fish collected per survey during the same study period and these data are presented in Figure 6. Although there is a decrease in the number of species found directly below the mill, this difference is soon lost as we move downstream and the makeup of the population some 4 or 5 miles below Bogalusa is essentially the same as that above the mill. It should also be noted that the decrease in species numbers immediately below the mill is made up by a substantial increase in numbers of the commercial species, the channel catfish.

Based upon extensive survey data, biological and chemical, we can state that conditions below Bogalusa are such as to support a well balanced fish population. Excellent fish collections have been made during the critical summer-fall season when the D.O. concentration ranged from 3 to 4 and no significant changes in the population could be detected which were attributable to these D.O. levels. In addition, evidence of spawning and development of fry and young fish was noted throughout the primary study area.



CONCLUSIONS

The Bogalusa Division of Crown Zellerbach early in 1964 completed and placed in operation primary treatment facilities designed to remove settleable solids from our waste flow discharged to the Pearl River. Operational data show that practically all of the settleable solids are removed as well as 20% of the BOD. Sludge deposits and the resultant benthal oxygen demand have been dramatically reduced and the river below the mill continues to aesthetically improve. Based upon extensive survey data, biological and chemical, we can state that conditions below our Bogalusa Division are such as to support a well balanced fish population. Excellent fish collections have been made during the critical summer-fall season since the primary treatment facilities went into operation.

To counteract the effects of low D.O. concentrations above the mill during the summer and fall low flow period, an elaborate oxygenation or reaeration system has been installed at Richardsons Landing near Bogalusa which has made it possible to add 1 to 2 ppm of D.O. to the Pearl River during critical periods of this summer and fall.

To accomplish these achievements the Company has spent more than \$1,200,000 on external waste treatment facilities and is incurring heavy annual operating costs to meet the desired water quality objectives. The results, however, are gratifying and data collected to date show that the implementation program undertaken meets with the specific recommendations of the Conferees to the Federal-State Enforcement Conference of October, 1963.

Mr. Chairman and Conferees, on behalf of Crown Zellerbach I wish to thank you for giving us this opportunity to appear here today and tell you of our accomplishments in water quality improvement. Water quality improvement is a problem of concern to all of us and you can be assured that my Company will cooperate in your efforts to maintain the desired water quality in the Pearl River.

APPENDIX

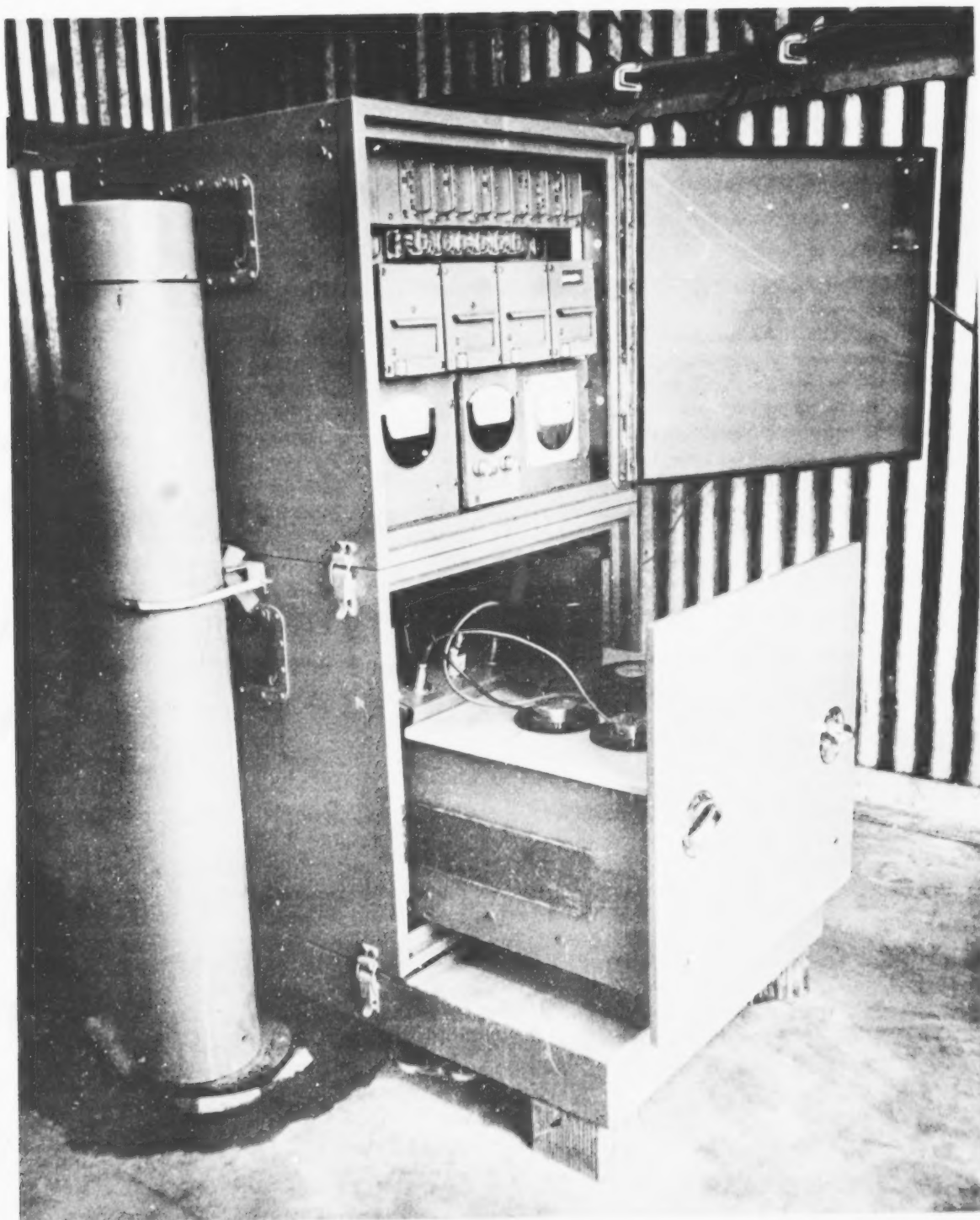


FIGURE A (APPENDIX) -- Continuous Water Quality Monitor at Pooles Bluff Station.

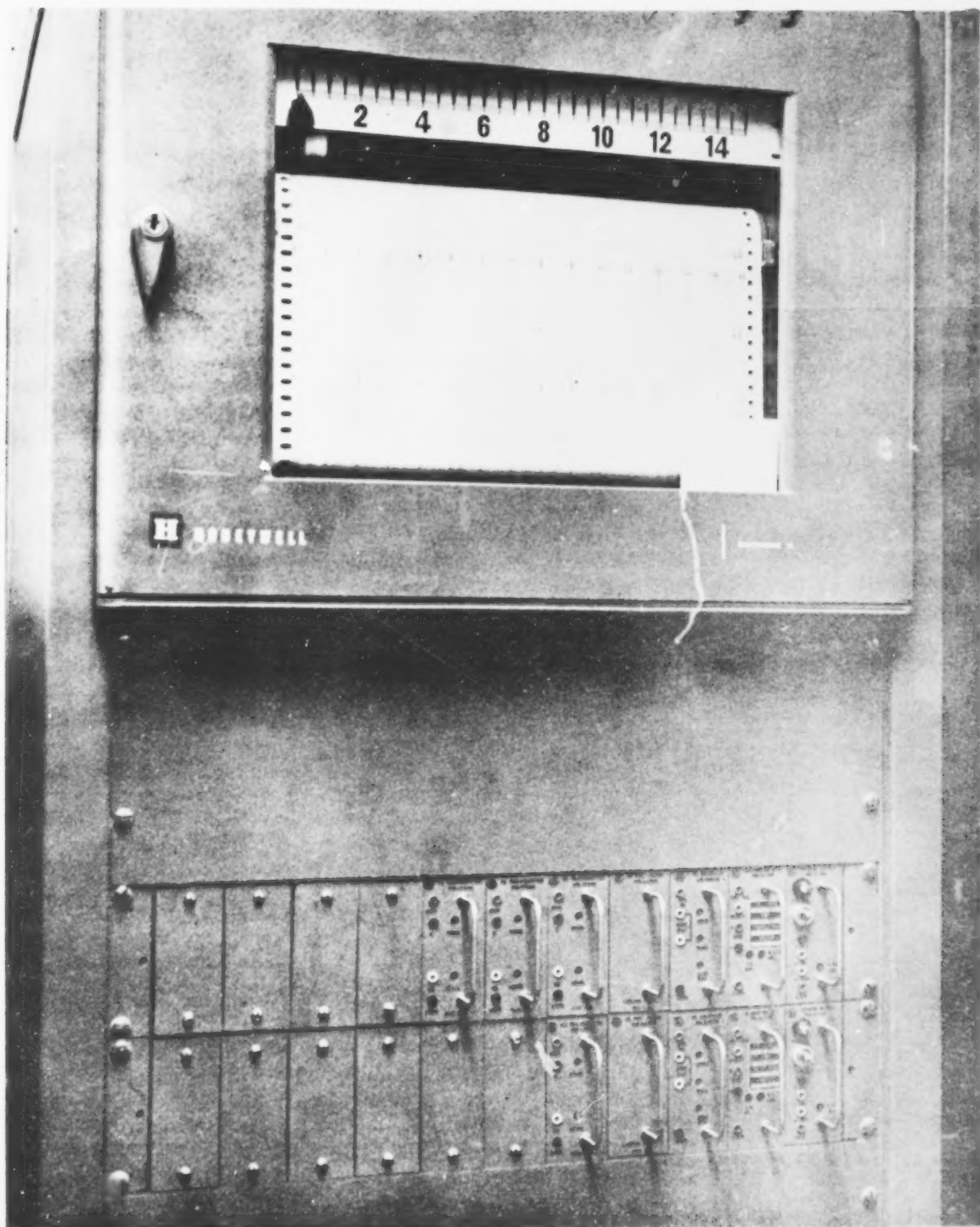


FIGURE B (APPENDIX) -- Recording Equipment For Monitoring Equipment -
Data is Transmitted and Recorded at Mill Laboratory.

MR. STEIN: Are there any comments or questions?

MR. TRYGG: I would like to ask one question.

MR. STEIN: Okay.

MR. TRYGG: On Page 11, your first paragraph, is this 15,000 pounds a gross additional oxygen or is this a natural DO --

DR. AMBERG: I think dissolved oxygen. We were adding 30,000 pounds or 15 tons a day.

MR. STEIN: Are there any other comments or questions?

MR. LAFLEUR: Dr. Amberg, this oxygenation system, oxygenator, this is planned to be used until and unless -- bear in mind when I ask this question: in the enforcement and implementation standards to the Federal Water Pollution Control Administration in compliance with the Water Quality Act of 1965 -- this oxygenator would be used until and in lieu of the completion of construction of the secondary treatment facilities that you now have on the drawing board? Am I not correct?

DR. AMBERG: Secondary treatment or its equivalent.

MR. LAFLEUR: That is what I mean.

DR. AMBERG: Yes.

MR. STEIN: You didn't talk about that.

MR. LAFLEUR: That is what I wanted to bring out.

MR. THOMAN: What is the status of that, Doctor?

DR. AMBERG: We are looking into a number of possibilities -- different possibilities for accomplishing a fairly high BOD reduction.

MR. STEIN: Let me ask a question. Are we committed to that as part of the program or is that still in discussion?

MR. LAFLEUR: We are evaluating this. But I think, to a degree, it can be also said that it was a commitment on the part of the firm that this oxygenator be used until and in lieu of secondary treatment, at which time -- let me add this, as I understand it, according to the record, the plans for this thing are now on the drawing board in some phase of development and they are planned for being on the stream by and before the end of 1972 -- again, with respect to what is in the implementation plan.

DR. AMBERG: We are working very closely with Mr. Lafleur.

MR. STEIN: In other words, you expect that secondary treatment downstream by 1972?

MR. LAFLEUR: Or its equivalent.

DR. AMBERG: Or its equivalent.

MR. STEIN: These suggest questions for clarification. You talk in terms of a 20 percent reduction in BOD. What are you guessing you might have when you get your secondary treatment?

DR. AMBERG: Seventy to 80 percent.

MR. THOMAN: If such is the case, possibly we ought to take a look later on at the dissolved oxygen criteria that have been set by the State. I think that the Secretary has taken some exception to these, has he not?

MR. LAFLEUR: Yes, he has, Mr. Thoman, He has excepted from his approval those dissolved oxygen values where we have assigned it. He hasn't said, by the way, which streams he had reference to. But he did say that those streams where we had assigned the dissolved oxygen value at 50 percent of saturation for the ambient water temperature, he was excepting from the approval.

I have not written Secretary Udall to ask him when he is going to send who and if or not this gentleman is going to speak for Secretary Udall, because we went through this ritual once. I got the whole Board together. And, ladies and gentlemen, we spent \$1,025 of your money recording the fact that when we worked out the amendment here, that dissolved oxygen -- with representatives of the Federal agencies out of Washington and out of the Regional Office in Dallas -- it was recommended -- and this is a matter of written record -- would be recommended for approval as previously submitted. And, of course, they were rejected or not approved. So far, we have not yet been informed who is coming, when he is coming or whether or not he will speak for Secretary Udall.

I think the answer to the last of those three questions is, to me, the most important, because I don't particularly care to go through these rituals over and over again.

MR. THOMAN: Well, this possibility Bob was suggesting through the conference technique that possibly, at least as far as the Pearl goes, we might later on today resolve this question.

And since the Secretary does have to sign off on the results of the conference, this might be a technique for obtaining some general concurrence.

MR. LAFLEUR: That's quite correct. I should also like to point out that this 50 percent of saturation, under the most adverse conditions -- and I would have reference here to the highest temperature we would record -- would be never less than 3.7 parts per million, which is awfully close.

And I think we are nit picking if we are asking for 4 -- here I am at 3.7 at the minimum -- I don't know -- it's not a fact that the error inherent in the method of determining dissolved oxygen won't allow for that difference in determination. For example, that the dissolved oxygen and other water quality parameters that are recorded and presented here by Dr. Amberg are in substantial agreement with our monitoring.

Unfortunately, we do not have these constant electronic-type monitoring devices. We do this more or less in a covered wagon fashion. But we are both monitoring.

And, again, I repeat, our values are very close together-- substantially in agreement is what I have reference to. This, by the way, also would refer to not only the dissolved oxygen values on the stream at both the control point or reference point upstream from the confluence of the river and the effluent leading into the river, but also, as Dr. Amberg described or discussed this at length,

as our point of maximum depletion, which is this 9-mile point.'

These values are very close together.

And BOD load discharged from the mill has been -- our values there agree. Now, it's quite true -- and he indicated here an average of some 54,000 pounds a day when the permit calls for 62,000. There have been instances where this number on a grab-sample basis has been exceeded.

And I would like to point out here, that it is not the averages that we suggested, but this is what is happening at the moment. But, again, you have to use an average, which is a word I don't like to use, but how do you get around it?

Don't criticize a mediocracy until you have first risen above it.

MR. THOMAN: I'm not going to criticize the giving of an average value for the discharge of pounds of BOD from the mill. I do have some question -- my next question to you, Dr. Amberg, is about using the average DO at Pooles Bluff in Table 1 here.

I have no objection to your presenting the average. I certainly would have liked to have seen the description of the period over which you averaged these, plus the maximum and minimum values that we had here.

Louisiana State data indicate one time in 1967 that one grab sample was down to 1.9. I don't know how often that occurred, whether it was an unusual thing or what.

DR. AMBERG: This has occurred, Mr. Thoman. This is the reason why we went to the oxygenation system as an interim step.

MR. THOMAN: Well, I think you have indicated, and Mr. Lafleur has indicated, that you are planning to go to secondary treatment. And I think the conferees can take that into cognizance; and it certainly is a step in the right direction.

MR. STEIN: When I speak I think I speak for the Secretary when we're dealing with the Pearl River here. Now, just dealing with this problem we have here, if the mill goes to secondary treatment, and you're asking for secondary treatment, are we really going to have an oxygen problem?

MR. LAFLEUR: After the secondary is complete?

MR. STEIN: Yes.

MR. LAFLEUR: I should think not. For the simple reason we have abated this situation, I don't like to call these things problems. I like to call them unmet needs.

MR. STEIN: That is right. You know, I am here to handle these -- one problem at a time. But I do believe we can get into a big theoretical discussion on some of these issues as to how you are going to measure something -- whether it is 3.7, 4 or 5.

But the issue here is if we are talking in terms of secondary treatment from Crown Zellerbach and the 70 or 80 percent BOD removal and, presumably, what about an 85 or 90 percent removal by the

city if they put in secondary treatment, we would probably have the oxygen problem fairly well licked; right?

MR. LAFLEUR: The data collected speaks for itself. The situation has improved and been better over the last three or four years. We are living in the present and I think we are probably going to spend a lot more time in the future. And this is indeed what we are looking for and, I think this is what mill management or the mill itself is looking to in these things.

And, incidentally, the oxygenator bit was not one of the recommendations of the conference, nor was it a recommendation of the Stream Control Commission, but it is a move on the part of the mill to prevent the severe pollution of this stream that has been known to occur in years gone by.

At least we can say this much -- that we do not have the severe pollution in the Pearl as we once had and the extensive fish kills that occurred in the Pearl River in years gone by. We have not had one in quite some time, not to my knowledge, nonetheless.

MR. STEIN: I know Dr. Amberg has come up with these ingenious devices before.

MR. THOMAN: Off the record.

(Whereupon an off-the-record discussion was held.)

MR. STEIN: I would say this: Since we are dealing with Crown Zellerbach here, we may have differences with Crown Zellerbach and a lot of the other paper companies in various places in the

country sometimes, but I think we are closer together than most people realize. One thing we have never had was a problem with that company on the exchange of data and information. I believe Mr. Lafleur indicated that the findings and the calculations made by the company were pretty close to theirs. That has been our experience with Crown Zellerbach wherever they have operated, and I don't think we have ever had that problem on the data.

I would like to ask a couple of questions. How did you get rid of those sludge deposits? Did you do anything?

DR. AMBERG: They are taken out generally by flooding.

MR. STEIN: By flooding. Are you removing about all of the fibers on that settleable material or are some fibers getting out?

DR. AMBERG: Suspended material, the reduction is about 90 percent.

MR. STEIN: Ninety.

DR. AMBERG: And settleable material is approximately everything that would settle.

MR. STEIN: Now, I have one other question, and possibly it is because of the degree of accuracy of the figures. We talk in terms of a 20 percent reduction of BOD in primary -- sometimes they claim you can get up to 25, 35 or 40 percent -- what has been your experience with that, Dr. Amberg? Would you say that the 20 percent is a fairly accurate figure, or, with adjustment of the primary, that even if we didn't go to secondary, we could raise that somewhat?

DR. AMBERG: You know we are getting 20 percent as an average. In Camas, Washington, we have been getting 35 percent. In Oregon, we have been getting 35-37. It depends on the type of products that you are making.

MR. STEIN: Rather than the operation of the system?

DR. AMBERG: Yes.

MR. STEIN: Are there any other questions?

MR. TRYGG: I have one other question. Would you voice an opinion on where this 32 percent less than saturation is coming from? Is it from a natural cause or from something else?

DR. AMBERG: We have no idea where this is coming from. It could be natural.

MR. TRYGG: That is no reflection on Mississippi.

MR. LAFLEUR: I should like to point out, Mr. Chairman, the way we have come about this, Louisiana has. They have for ten years, they have had a monitoring program on some 30 streams in the State, and the Pearl is certainly one of them.

And we have got three monitoring points on the Pearl: one above the plant, one at the point of maximum depletion and one below the second sag point, which for those of you who are quite familiar with the geography here, down in the area of Walkiah Bluff.

This monitoring data involves a monthly recording -- I would like to have more, but I just don't have the money to do it. But we are monthly recording at some 60 sampling points on 30 streams in the State, some 12 water quality parameters.

These data are being placed on punch cards on printouts and we refer to them extensively. We do indeed use them. I don't know what we would have done without them when we were going through the ordeal or the ritual of preparing the proposed water quality standards to comply with the Water Quality Act of 1965. They were pretty good baseline data. They were pretty good baseline data.

We pretty well know what is in the water, what shouldn't be there and what we need to take out where the situation exists.

MR. STEIN: Dr. Amberg, I have one more question. If you go to secondary treatment, do you anticipate a further reduction of that 10 percent suspended material or will that still be getting that?

DR. AMBERG: I think you would end up with 95 percent reduction.

MR. STEIN: Are there any further questions?

VOICE: Would there be a question permitted?

MR. STEIN: I'm sorry, sir. I indicated before we could not take questions from the floor because if we opened it up, we would be here for awhile. However, you will be called upon. When you are called upon, you may make your point, if you wish, and we would attempt to have the answer or have someone from the mill give the answer. But, really, if we are going to get through, we can't entertain those questions.

Any further comments or questions? Thank you very much, Dr. Amberg.

MR. LAFLEUR: This, by the way, completes the list of people from the State of Louisiana who have indicated they wish to make a statement. I should ask, however, if there are any from the audience, from Louisiana, who would desire to present one and perhaps have not indicated on the little blank form, or that came in after the meeting got started? Any further statements from anyone from Louisiana?

MR. DEMPSEY ALLEN (President, Washington Parish Conservation League, Bogalusa, Louisiana): I am Dempsey Allen, president of the Washington Parish Conservation League and we are affiliated with the Louisiana Wildlife Federation.

Naturally, being a sportsmen's organization, we are against all pollution. While we realize that all parties involved are trying, the Pearl River is still a disgrace and the raw sewage is going into the river. Raw sewage, gentlemen, is not only unsanitary, it's barbaric. That's for the record.

MR. TRYGG: We expect the support of Mr. Allen's organization when this bond issue comes up.

MR. STEIN: Are there any further statements from Louisiana? If not, I suspect we should recess for lunch. We will reconvene at 1:15.

(Whereupon the conference recessed at 12:00 Noon and reconvened at 1:23 p.m.)

MR. MURRAY STEIN: Let's reconvene. I will now call on Mississippi. Mr. Wright.

MR. ROBERT S. WRIGHT (Executive Secretary, Mississippi Air and Water Pollution Control Commission, Jackson, Mississippi): Thank you, Mr. Chairman, As you know, the Mississippi Air and Water Pollution Control Commission is a new State agency. We were formed in 1967 and naturally have inherited a lot of the problems in Mississippi, as well as maybe inheriting this conference.

We were not participators in the first session of this, but due to the change in responsibility, we are included today.

The Mississippi Air and Water Pollution Commission has developed water quality standards, and these standards do include the secondary treatment of -- secondary or equivalent treatment of waste in the State.

We have adopted a system for permits of waste discharges and these will be issued and procedures carried out in the near future. And some of our results are probably yet to be observed or seen.

The list I have today of those who wish to make statements is in the order that I received them. And the first one is Mr. O. B. Curtis, with the City of Jackson, Mississippi. Mr. Curtis.

MR. O. B. CURTIS (City Engineer, City of Jackson, Mississippi): Gentlemen, I have a prepared statement here which amounts to a summary of what we have done and what we are doing since this 1962 report.

MR. LAFLEUR: This, by the way, completes the list of people from the State of Louisiana who have indicated they wish to make a statement. I should ask, however, if there are any from the audience, from Louisiana, who would desire to present one and perhaps have not indicated on the little blank form, or that came in after the meeting got started? Any further statements from anyone from Louisiana?

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(Whereupon the conference recessed at 12:00 Noon and reconvened at 1:23 p.m.)

Since we are not in the lower Pearl, unless some of our State groups like the conservation group brings this up, I would just as soon not make my statement. If he does, I want yet the privilege of making my statement.

MR. STEIN: Well, let me give you these alternatives if it is agreeable with Mr. Wright. You can do this. You can put your statement in the record, or we can defer you until later.

MR. CURTIS: Defer me until last and if we are not involved, I will just pass.

MR. STEIN: Thank you.

MR. WRIGHT: The next indication we have for a statement is from Mr. Alvin Beck, from the Pearl River Basin Development District.

MR. ALVIN J. BECK (Executive Vice-President, Pearl River Basin Development District, Jackson, Mississippi): Gentlemen, my remarks will be centered around primarily what our plans are for the Pearl Basin and how these plans will relate to the pollution-free stream.

Mr. Stein, other members of the conference and interested people, we appreciate this opportunity to report to this conference explaining our present plans for the development of the Pearl and the resulting need for a clean, pollution-free river.

In May of 1967 our Basin District, which is an agency of the State of Mississippi, dedicated the Pearl River as a scenic boatway. The creation of a desnagged, winding, tree-shrouded,

sand-barred stream that will provide a mecca for pleasure boaters and fishermen from New Orleans and the entire south is our goal.

We are presently desnagging the river from Bogalusa to Columbia. Our plans are to continue the desnagging to Jackson and then the East Pearl from the end of N.A.S.A. Canal to the junction of the main stem.

We will build water parks and boat-launching ramps at strategic locations to provide ports for itinerant boaters and access to the river for local boaters.

These water parks will include such activities as swimming, camping, picnicking, hiking, bicycle and bridle paths and nature trails.

We are presently awaiting final approval from the Bureau of Outdoor Recreation to begin construction on a \$368,000 park at Columbia, Mississippi.

Low-head dams with boat lifts will eventually be installed to create a channel of sufficient depth for water-skiing and other boating activities.

As you can see, gentlemen, we have embarked on an ambitious program that we believe will have lasting benefits for future generations. You can also see that much money will be spent to create this pleasure boatway.

All these final results though are dependent on our having a pollution-free river with which to work. We are sincerely dedicated

to seeing pollution of the Pearl cease and are willing to work closely with industry and other public agencies to achieve this goal.

I think the following resolution passed by our Board at our last regular meeting, October 14, best exemplifies our feeling on pollution on the Pearl. I'll read this resolution at this time.

BE IT RESOLVED, by the Board of Directors of Pearl River Basin Development District that the Mississippi Air and Water Pollution Control Commission be and the same hereby is urged and requested to promulgate such rules and regulations that may be necessary for the prevention, control and abatement of pollution on Hobolochitto Creek and lower Pearl River in Pearl River County, Mississippi, and to issue such orders as may be necessary to prohibit, control and abate the discharge of contaminants and waste into the waters of said Hobolochitto Creek and lower Pearl River.

RESOLVED FURTHER, that the executive director of the District be and he hereby is authorized and directed to transmit a copy of this resolution to the aforesaid Mississippi Air and Water Pollution Control Commission.

I think, gentlemen, this explains briefly what we plan to do on the Pearl. I'll say, that in our early action programs in the next 10 to 15 years, we expect to finish with this desnagging operation.

We also expect to begin construction on these water parks immediately up and down the Pearl River to provide a pleasure boatway for these people. In our long-range planning will be the building of low-head structures to maintain sufficient channel depth.

If you have any questions, I will be glad to answer them, sir.

MR. STEIN: No, I don't. But I have one comment, I hope, in opening this up for pleasure boats, you are going to consider at an early stage what you are going to do with the waste from the boats.

I say this from experience and not to be invidious in any way. For years, the pleasure boat operators in Lake Michigan and Lake Erie were fussing for cleaner water. Then we got the situation -- moving ahead -- where I think we have possibly the biggest municipal-industrial cleanup going on in the borders of those lakes right now. At the same time, the States imposed regulations on the pleasure boat operators because we are beginning to open them up. To my surprise, we had some outcries from the very people who are asking for the cleanup when we were asking them to take care of the waste from their own boats.

Now, I want to put this into perspective. I am not by any means saying that the pollution load from all the boats combined are even near equal to the load resulting from the industries and municipalities running full time.

But, nevertheless, I think, while we're talking about this -- and we are all with you in opening this up -- and I hope in your thinking now, that you are thinking in these terms, because inevitably boat pollution becomes the next issue once we begin cleaning up the river.

MR. BECK: We are, sir.

MR. STEIN: Thank you.

MR. WRIGHT: We have quite a few members of the Pearl River County Fish and Wildlife Conservation Club that wish to make statements and I have them in the order that they were given me.

Do you have some particular order you wish?

MR. MANSFIELD DOWNES (President, Pearl River County Conservation Club, Picayune, Mississippi): Could I retain the floor and call in these members to make statements?

MR. STEIN: That would be agreeable. Why don't you come up here and call your members in and make any preliminary statement you wish.

MR. DOWNES: We represent the Pearl River County Fish and Wildlife Conservation Club. And we want to present the pollution problem on the Hobolochitto Creek which is, in fact, the main tributary of East Pearl River and is actually a continuance of that river.

We have a letter here from the Corps of Engineers, indicating the low flows on the two streams. Mr. Stein, you can see the Hobolochitto Creek contributes more than half of the average annual --

MR. STEIN: May we have this for the record?

MR. DOWNES: Yes.

MR. STEIN: Without objection, this will be entered into the record as if read. On second thought, this is a very short letter. Why don't you read it.

(Letter from the Corps of Engineers was read.)

MR. DOWNES: Now, this was written to our City Engineer and he was gracious enough to give me a copy of it sometime ago.

"Referring to your recent request, information on low flows in the vicinity of Picayune are estimated as follows:

"Hobolochitto Creek at Highway 43 bridge, the average annual is 62 cubic feet per second; and the 10-year low is 43 cubic feet per second.

"Pearl River near Nicholson, 120 cubic feet per second; and the 10-year low, 80 cubic feet per second."

So there we have Hobolochitto Creek going past the half-way mark on low flows on the stream. So we feel that it is vital that Hobolochitto Creek be unpolluted if the East Pearl River is to be unpolluted.

I have here a letter from Mr. Robert S. Wright, September 20 of this year. It is written to Mr. Frank Gordon, our publicity coordinator. It says:

"Dear Mr. Gordon:

"This is to acknowledge receipt of your letter of September 18, 1968, in regard to statements concerning the pollution

problem in Hobolochitto Creek

"Our records indicate that the water in the Hobolochitto Creek has been degraded and the stream will not support any beneficial use."

I'd like to take that paragraph of Mr. Wright's -- we have not found that in the use of that stream to be so. Now you're here making a statement of the whole -- the whole of the Hobolochitto Creek or the two creeks --

MR. WRIGHT: No.

MR. DOWNES: "Our records indicate the water in the Hobolochitto Creek has been degraded and the stream will not support any beneficial use."

MR. WRIGHT: What was the question, please, sir?

MR. DOWNES: The question is: Do you find all of Hobolochitto Creek will not support beneficial use or simply part of it?

MR. WRIGHT: Part of it.

MR. DOWNES: Well, your letter indicated otherwise for us, and we were concerned about it because we have found part of that stream, especially from our standpoint of fish and wildlife, in pretty good shape.

And especially we refer to the part around the Highway 43 bridge, directly above and directly below until the pollution of Crosby Chemicals, Inc. comes into it.

Now, we also have a recreational area on the west of Hobolochitto Creek --

MR. STEIN: Mr. Downes, are you or anyone else going to specify what the difference is you found above or below? I think this term "beneficial uses" may be a little vague.

MR. DOWNES: I hope to bring that out in a practical manner.

MR. STEIN: All right.

MR. DOWNES: I can't compete with the doctor and --

MR. STEIN: No, we are not asking you to do that. But I think for the benefit of the conferees, that if you talk in terms of beneficial uses -- the more degrees you have after your name and I have enough myself -- the more you are going to argue about it.

We would like to have these in your terms -- what you see and what you know.

MR. DOWNES: We hope to present that.

MR. STEIN: Right.

MR. DOWNES: We hope to present that. As I was saying about our recreational area, we have had it for a number of months now and we had it through the summer months on West Hobolochitto Creek, the west branch of the stream, probably six or seven miles above the Highway 43 bridge, and we went in there and cleaned out the creek for swimming.

We have developed certain amounts of recreational facilities. They were used by hundreds of people through the summer. We only had one fish kill on the stream and we traced that to a soybean

field that had been sprayed with some poisonous material. It was a small kill. The stream was used before that and after that and has been used since. We catch a lot of fish in that part of the stream.

Moving on down to Highway 43 --

MR. STEIN: Let me ask you this question. Again, I am sure you know this area much better perhaps than the conferees. When you specify "recreational use," do you mean fishing --

MR. DOWNES: Fishing and swimming.

MR. STEIN: Now where do they swim from -- boats, beaches or the shore?

MR. DOWNES: They swim in the creek.

MR. STEIN: You don't have any organized beaches, do you?

MR. DOWNES: Organized as such, Mr. Stein, we have sandbars.

MR. STEIN: Sandbars -- that's what I am getting at. My question was: Where do they swim from? Now, the point is -- what I'm getting at is that the creek is generally used for fishing and water-contact sports, presumably now, where you have complete body contact.

MR. DOWNES: We have complete body contact. We drink the water; our families drink the water at times. We have suffered no ill effects from the water.

Moving on down the Highway 43 bridge, where a lot of our club members have done a whole lot of fishing this past summer,

if I may, I would like to call up one of our club members that has done a lot of concentrated fishing there and let him give a report on the fishing. And can I still retain the floor?

MR. STEIN: Surely.

MR. DOWNES: Mr. J. D. Herrin.

MR. J. D. HERRIN (Director, Pearl River County Fish and Wildlife Conservation Club, Picayune, Mississippi): In 30 fishing days I caught 635½ pounds of catfish from Highway 43 to where East and West Hobolochitto runs together. That's the space of approximately a quarter of a mile.

Now, in the meantime, I caught 39 pounds of bass and I caught 13 pounds of white perch. Below Richardsons Slough, for a distance of around 30 miles, there's not a turtle.

MR. THOMAN: Richardson Slough, what waste comes in there?

MR. HERRIN: Be glad to show you. Now if any of you gentlemen like a little tar -- just reach. Now, this came out of the creek off of a snag. (Indicating) So did this. (Indicating) This was growing in the middle of the creek.

Now, in those jars -- this came directly out of a shoot of Richardsons Slough. This is the skim about a quarter of a mile below Richardsons Slough.

MR. STEIN: What do you attribute that change to?

MR. HERRIN: What do I attribute what change to?

MR. STEIN: The change in the condition of the water in both of those jars. In other words, what is there between those two points that makes that waste any different?

MR. HERRIN: Could we show you the film?

MR. STEIN: No, the film won't show on the record.

MR. DOWNES: We'll make a statement later.

MR. HERRIN: Could we give you an analysis of that?

Would that be better?

MR. STEIN: Well, you proceed in your own way.

MR. HERRIN: Give them an analysis on that.

MR. DOWNES: As you see, the letter refers to an analysis from the Mississippi State Chemical Laboratory and this analysis isn't complete. In other words, they have their dissolved solids and silicas, etc.

Now, turning over to the third page, we do start a complete laboratory analysis. Now this laboratory -- we're not submitting this for the record -- we had it done for our own information. If it is not proper to go through it now, we will stop.

MR. STEIN: No, you can go forward. Why don't you want to submit it for the record?

MR. DOWNES: Because of certain court litigations. But at any rate, we would like for you to look at it -- the last page -- we call your attention down to Number 7, the Highway 43 bridge, which is the last one in the corner in the righthand side.

You will find there, that according to the State criteria, quality specified, that the water does pass at Highway 43 bridge.

Now, we have here an analysis from the Coast Guard. But, J.D., that doesn't give us Highway 43 bridge, so I think we'll pass over that.

MR. HERRIN: It starts at the Highway 43 bridge and then goes --

MR. DOWNES: I don't believe they give an analysis of the Highway 43 bridge.

Back to Mr. Wright's letter. We are getting ahead of ourselves on some of these things. I hope you will excuse us. Mr. Wright says in his letter:

"Our success has been greatly hampered by the emotional air which has developed and which requires us to defend our every action."

Now, Mr. Wright, this emotional air has been in the area for a long time. In fact, it's been in the area ever since certain forces have been at work destroying our stream and that is what has been happening. This stream is a basic tendon of our community, social and recreational, and in years past a source of foodstuff. And we have seen it, in fact, destroyed and it is in the process of being destroyed now. So the emotions here have been extremely strong. We simply haven't been able to do anything about it.

The Game and Fish Commission, it was our understanding, up until 1966 had this under their jurisdiction. Now the years just

prior to that was when the total destruction of the stream began and nothing was done. Nothing was done -- not a charge was made.

We are disturbed about it. There is an emotional air. We think there should be.

MR. STEIN: Sir, let me go back to this again. You know, we would like to keep a clear record here. And the question is: If you're going to make this public, you can go off the record on this -- why do you want to keep this out of the record?

MR. DOWNES: The analysis?

MR. STEIN: Why do you want to keep this out of the record? You have given it publicly. There's no secret.

MR. DOWNES: Well, the lab that analysed this asked us to withhold their name at present.*

MR. THOMAN: It's on the third page.

MR. STEIN: Now, we will respect that. In order to set this straight -- because I think we're going to have a transcript of this up here and I think we have an obligation to the people who read the record to have an orderly transcript.

At the 1963 conference, we had certain findings of the conferees involving the State and Federal conferees, and I looked through here -- you talk about a certain course.

I don't believe we can get to these things - one of the advantages of these conferences, we name names, places and sources and there's no other way we can get it.

* On a later request by Mr. Downes, the reference reports were submitted for the record and are appended.

I am referring to the findings in the 1963 conference, which Finding Number 7 -- it says:

"(7) Industrial waste discharges from Crosby Chemicals Corporation near Picayune, Mississippi, which may be occurring on a daily basis, endanger the health or welfare of persons in Louisiana. The conferees take cognizance of the substantial effort this company has made to treat its toxic waste and of its construction of an additional lagoon system which shall be in operation by January 1965."

Is this the waste source you are talking about?

MR. DOWNES: That is the waste source. But now we know that the city -- at the same time, the city of Picayune, from a municipal basis and as citizens we would like to present at this time Mr. Elson Cramer, who will show you what we did about that. Will you come up and show us what the city has done.

MR. ELSON CRAMER (Pearl River County Fish and Wildlife Conservation Club, Mississippi): The following figures taken from the city of Picayune records show the amount residents spent per year for waste disposal by the city of Picayune:

Garbage Collection	\$36,000
Taxes for Garbage Disposal	24,000
Sewer Fees	57,600
Payment on Sewage Treatment Plant for 26 Years	180,000 per year

We spend \$297,600 per year.

MR. DOWNES: We feel we made and are making a pretty good effort as far as the city goes towards cleaning up.

MR. STEIN: Let's have some questions. What kind of treatment do you have in Picayune?

MR. DOWNES: What kind of treatment?

MR. FRANK DUNAWAY (City Engineer, Picayune, Mississippi): We have just installed a new trickling filter plant that has a primary and secondary treatment -- also includes a finishing pond.

Just as Mr. Downes said, we feel like we are doing a real good job. We are getting about 95 percent --

MR. STEIN: Ninety-five percent of what?

MR. DUNAWAY: Ninety-five percent reduction.

MR. STEIN: What, BOD?

MR. DUNAWAY: BOD

MR. STEIN: You feel you are getting a pretty thorough reduction of the pathogens, of the germs, in the effluent?

MR. DUNAWAY: Yes, sir. And I think Mr. Wright will back me up on that.

MR. STEIN: In other words, you don't think that you need -- you think your holding pond or finishing pond does the equivalent job of the disinfection? You can discharge this way?

MR. WRIGHT: This is tertiary and is added on after ---

MR. STEIN: Will you indicate to us whether you think that there is any bacteriological material coming out of the effluent or pathogenic material that needs further treatment, and that these people have a complete plant in and for the reasonably foreseeable future?

MR. WRIGHT: It is adequate capacity for the future, yes, sir.

MR. THOMAN: One question. What was the total cost of that treatment plant that you put in? Do you have that offhand?

MR. DUNAWAY: The plant and the system were around \$2.5 million dollars. The cost of the plant was about three-quarters of a million.

MR. THOMAN: I notice that the Federal grant was about \$440,000, which would indicate that it would be about 30 percent of the total cost of eligible items.

MR. TRYGG: I am still not clear as to the final treatment here. You're suggesting, Murray, that this holding pond is in lieu of this disinfection?

MR. WRIGHT: No.

MR. TRYGG: They disinfect, too?

MR. STEIN: They disinfect, too?

VOICE: Right.

MR. STEIN: That is very good. Let me try to do this again. I don't assume that we know everything here. The people in the local situation know this much better than we do.

Now, we are looking for the specifics and these are the key points that we want to use. Now, if we have this kind of treatment in Picayune and if this is operated properly, which I have every reason to believe, I will say this is what we would generally consider very, very good treatment.

If they have secondary treatment, plus chlorination, plus disinfection, in whatever way you use it, plus a finishing pond, and they are getting a 95 percent reduction in BOD, no one these days is going to ask for anything better.

MR. DOWNES: And it is costing \$186,000 a year.

(Whereupon an off-the-record discussion was held.)

MR. DOWNES: This water taken November 2 from Hobolochitto Creek at the Highway 43 bridge, the taste and odor is all right. We drink it when we're up there fishing. The families drink it. And we have suffered no ill effects.

MR. STEIN: I'm sorry, sir, but these records go all over the country. I know you may drink this, but I just have to say ---

MR. DOWNES: We're not submitting it.

MR. STEIN: We can't recommend that anyone drink untreated surface water. (Laughter.)

MR. DOWNES: We simply want to show you the difference.

MR. STEIN: Thank you. I just did this to preserve the record. I know I'm going up on a pollution case next week ---

MR. DOWNES: If we don't get sick, we keep drinking water.

MR. STEIN: I'm going up on a pollution case next week -- when I used to be in a boat and fished, when I was a boy, I used to dip in and drink it, too.

MR. DOWNES: Of course, we know that industry is vital to the community. But the community is also vital to the industry -- the welfare of the people.

Now, any indications of sincere effort -- and we feel the city of Picayune, with its citizens, and under the leadership of our city government, have made a sincere effort. Any sincere effort we are willing to recognize.

We give you now a news item from the Picayune Item, a local paper in Picayune, Mississippi. This statement is signed by Mr. R. H. Crosby of Crosby Chemical Corporation.

MR. STEIN: May we put this in the record?

MR. DOWNES: Yes.

MR. STEIN: It will appear in the record as if read.

(The above mentioned news article entitled:

"Crosby Chemicals Answers Recent Critical Television Broadcast " follows)

MR. DOWNES: This was published September 19, 1968.

I call your attention to the paragraphs that are outlined.

"Much of the damage to Hobolochitto Creek downstream from the drainage stream which flows from the Crosby plant occurred as a direct result of several disastrous fires and explosions over which the company had no control. This fact was not revealed in the program.

"It also failed to note that by the time Hobolochitto Creek leaves the property of Crosby Chemicals, Inc., it has completely recovered from any harmful effects of effluents that escape from the company's retention system."

PRICE

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PICAYUNE

THE PICAYUNE ITEM



NUMBER 42

THURSDAY, SEPTEMBER 19, 1968

PICAYUNE, MISSISSIPPI

ZIP CODE 39466

TWENTY-FOUR PAGES

Crosby Chemical Answers Recent Critical Television Broadcast

The following statement signed by R. H. Crosby, Chairman of the Board of the Crosby Chemicals, Inc., was broadcast Monday night over WDSU-TV of New Orleans by T. L. Crosby, Vice-President of the company:

"On Friday, August 30, 1968, WDSU-TV broadcast a feature program on the Hobolochitto Creek in Pearl River County, Mississippi, which in fact was an unjust attack upon Crosby Chemicals Inc. and R. H. Crosby for alleged pollution of the stream. The main source of information for the program was a disgruntled former employee of Crosby Chemicals, Inc. who is presently the defendant in a pending injunction suit to prevent his repeated trespasses upon the private property of Crosby Chemicals, Inc. and Mr. and Mrs. R. H. Crosby.

"The broadcast contained many errors. The Mississippi courts have held that Hobolochitto Creek is not a navigable stream and that, consequently its use without the permission of the abutting landowners is trespass.

"Much of the damage to Hobolochitto Creek downstream from the drainage stream which flows from the Crosby plant occurred as a direct result of several disastrous fires and explosions over which the company had no control. This fact was not revealed in the program.

"It also failed to note that by the time Hobolochitto Creek leaves the property of Crosby Chemicals, Inc. it has completely recovered from any harmful effects of effluents that escape from the company's retention system.

"The broadcast stated that the 'head of the pollution Board, Robert Wright', had told WDSU-TV that a recently completed study showed that Crosby Chemicals, Inc. is polluting the creek and that a ruling concerning same would be forthcoming.

"Robert Wright, Executive Secretary of the Board, denies that he ever made any such statement to WDSU-TV.

"Further, the broadcast intimated that R. H. Crosby and all of the 'Crosby interests' are one and the same. This is false and untrue. R. H. Crosby does not own Crosby Chemicals, Inc.; he is only one of numerous stockholders.

"The most prejudicial and unfair inference of the program was that R. H. Crosby is the 'Lord of the Field', who has ruthlessly used economic influence to pervert the people and natural resources of the area solely for such economic gain.

"The broadcast made no reference to the schools, hospitals, athletic fields, library and cultural center

(CONT. ON PAGE TWO)

ENVIRONMENTAL ACTION

CROSBY ANSWERS

(CONT. FROM PAGE ONE)

and numerous other civic improvements generously contributed to Picayune and Pearl River County by the interests so unjustly assailed by this program.

"Crosby Chemicals, Inc. and R. H. Crosby have long been interested in the conservation and preservation of the natural resources of the area.

"This company works cooperatively with and actively assists the Mississippi Air and Water Pollution Board and the Mississippi Game and Fish Commission.

A large wildlife refuge is maintained by the company adjacent to Hobolochitto Creek.

"Even though the effluents which presently escape affect only the property of Crosby Chemicals, Inc., the company will, nevertheless, continue efforts to improve its retention system, because of the management's interest in water resources and wildlife conservation.

"A minimum of investigation, which impartial news reporting should demand, would have revealed all of the foregoing.

Crosby Chemicals, Inc.

By: R. H. Crosby,

Chairman of the Board"

END OF LETTER

Now, we have statements from adjacent riparian owners below the Crosby Chemical -- excuse me a minute -- these are riparian owners below the Crosby Chemical property.

"We, the undersigned citizens of the State of Mississippi, have personal knowledge that pinelike pitch residue, water discoloration and odor from Crosby Chemicals, Inc., deposited by the discharge ditch of Crosby Chemicals, Inc., into Hobolochitto Creek, have been evident in Hobolochitto Creek, below Crosby Chemical property, for more than 10 years."

I submit that for the record.

MR. STEIN: Without objection, this will be entered into the record as read with the names and signatures.

(The above-mentioned statement from citizens of the State of Mississippi follows).

MR. DOWNES: "We, the undersigned riparian and adjacent landowners or tenants on Hobolochitto Creek below the Crosby Chemicals, Inc., discharge ditch, state that pinelike pitch residue and water discoloration and odor deposited into this creek by Crosby Chemicals, Inc. discharge ditch, have been evident in the creek and bayous adjacent to our property, for more than 10 years."

We enter that. Those are dated September 18 of this year.

We, the undersigned citizens of the State of Mississippi, have personal knowledge that pine like pitch residue, water discoloration and odor from Crosby Chemicals, Inc., deposited by the discharge ditch of Crosby Chemicals, Inc., into Hobolochitto Creek, have been evident in Hobolochitto Creek, below Crosby Chemical property, for more than 10 years.

Name <u>L. Seal</u>	Name <u>Jan. J. Mansfield Jr</u>
Address <u>RT 4 Box 264</u>	Address <u>1417 4th Ave</u>
Name <u>Mr. L. C. Seal</u>	Name <u>Mrs. Bunkitt Halley</u>
Address <u>Rt. 4 Box 264</u>	Address <u>Rt. 4, Box 236</u>
Name <u>Gerald L. Seal</u>	Name <u>Renee Stockstill</u>
Address <u>RT4 PLYMOUTH</u>	Address <u>Rt. 4 Box 313</u>
Name <u>Robert Anderson</u>	Name <u>Mrs. Renee Stockstill</u>
Address <u>11206 Ave. Piquette</u>	Address <u>Rt 4 Box 313</u>
Name <u>Ray Stockstill</u>	Name <u>J. A. Stockstill</u>
Address <u>1128 16th Ave. Piquette</u>	Address <u>Rt 4 Box 397</u>
Name <u>Deborah Jones</u>	Name <u>David S. Gordon</u>
Address <u>Route 4 Box 248</u>	Address <u>RT4. Box 474 Piquette</u>
Name <u>Fred Hartfield</u>	Name <u>C. R. Stockstill</u>
Address <u>Route 4 219</u>	Address <u>Piquette Ave. Piquette</u>
Name <u>Billy Smith</u>	Name <u>Arthur H. Smith</u>
Address <u>RT4 Box 229</u>	Address <u>RT4 Box 100 Piquette</u>
Name <u>Mrs. Billy Smith</u>	Name <u>J. D. Heron</u>
Address <u>RT4 Box 229</u>	Address <u>RT4 Box 429 Piquette</u>
Name <u>P. S. Bankston</u>	Name <u>2700 - No. 1st</u>
Address <u>RT4, City</u>	Address <u>Box 114 - 1AA Piquette</u>
Name <u>John Smith</u>	Name <u>Paul T. Smith</u>
Address <u>Rt. 4 Box 219</u>	Address <u>Piquette Ave. Piquette</u>
Name <u>John Smith</u>	Name <u>John Smith</u>
Address <u>RT4 Box 219</u>	Address <u>507 Lolly Road</u>
Name <u>Sam B. Williams</u>	Name <u>Allen H. Williams</u>

MR. STEIN: Is the other one dated September 18 also?

There is no date on that.

MR. DOWNES: Yes, sir.

MR. STEIN: Both these will be entered into the record as if read.

(The above-mentioned statement from riparian and adjacent landowners on Hobolochitto Creek below Crosby Chemicals, Inc., follows)

MR. DOWNES: Now, in order to bring the true nature of this particular pollution to you and to really show it to you, present it to you, we feel the only way we can do it is in a color motion film.

So we have, in fact, made a motion film of this stream, Hobolochitto Creek. This is the main branch, confluence of east and west, down a short ways past what is known as the Palestine Road Bridge, which is about six miles below the Highway 43 bridge.

In fact, we made a motion picture clear down to Jackson's Landing in the East Pearl River. We know that time is limited, but we have one reel here we would at this time like to show.

MR. STEIN: All right. We have no objection to that. Is there any objection from the other conferees? How many copies of this film do you have?

MR. DOWNES: We only have the one. We weren't going to submit it for the record or anything.

September 18, 1968

We, the undersigned Riparian and adjacent landowners or tenants on Hobolochitto Creek below the Crosby Chemicals, Inc., discharge ditch, state that pine like pitch residue and water discoloration and odor deposited into this Creek by Crosby Chemicals, Inc. discharge ditch, have been evident in the Creek and Bayous adjacent to our property, for more than 10 years.

Name Jim McDaniel

Address Rt 2 Box 117

v

Name Robert H. Johnston

Address Rt. H. Box 217

Name Mrs. Walter Watkins

Address P 3 Box 113 Pecayenne Miss.

Name James J. Plouffe

Address Box 213

Name Walter L. Watkins ROUT-4-Box 234

Address _____

Name Ante L. Carter

Address Rt. 4, Box 218, Pecayenne, Miss.

Name Mrs. Ante L. Carter

Address Rt 4 Box 218 Pecayenne

Name Mrs. Robert H. Johnston

Address Rt. 4, Box 217, Pecayenne, Miss.

Name Walter L. Watkins

Address Rt 2 Box 117 Pecayenne

Name James J. Plouffe

Address Box 213 Pecayenne, Miss.

MR. STEIN: You were not?

MR. DOWNES: We didn't have that in mind.

MR. STEIN: If you wish to do that and they can be borrowed, we will make copies of that.

MR. DOWNES: We would like to do that. If you can handle that, we would like to do that.

MR. STEIN: For the record, we will have two prints made and the prints will be available during normal office hours at the Regional Office, Federal Water Pollution Control Administration in Atlanta and headquarters, Washington, D. C.

(Whereupon a motion color film of Hobolochitto Creek was shown. The above-mentioned film, marked Exhibit 2, is on file in Headquarters, FWPCA, Washington, D. C. and Atlanta, Georgia, regional office.)

MR. DOWNES: Gentlemen, I think you can all see how the emotions of a community could be aroused by a condition like this in a stream we have known since youth. And myself, and these committeemen with me, we were in fact raised on that stream.

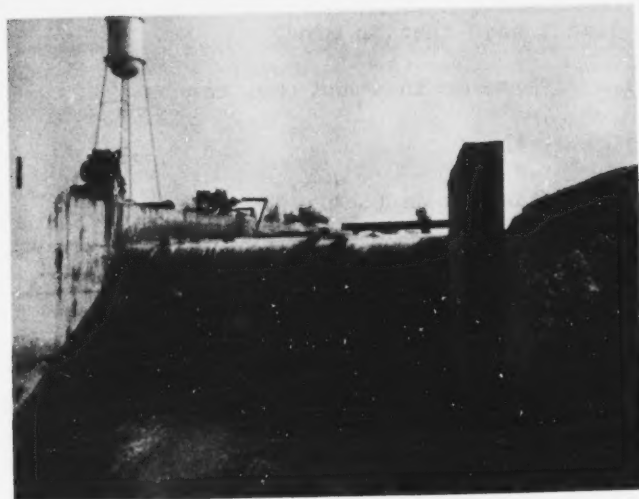
MR. STEIN: When did you take those pictures?

MR. DOWNES: Those films were taken in August.

MR. STEIN: Do those conditions still exist today?

VOICES: Yes.

MR. DOWNES: On November 2, which was last Saturday, we went into the spillway of Crosby Chemical plant and took those color shots. (See pages 112 and 113 for three of the photographs mentioned above.)



LUMPS OF PINE PITCH SOLIDS GOING OVER SPILLWAY CROSBY CHEMICALS, INC.,
RETENTION LAGOON, NOVEMBER 2, 1968.

Frank Gordon
Frank Gordon
Mansfield Downes
Mansfield Downes



PINE PITCH SOLIDS IN CROSBY CHEMICAL INC. WASTE DITCH AT SPILL-
WAY, NOVEMBER 2, 1968.

Frank Gordon
Frank Gordon
Mansfield Downes
Mansfield Downes.

MR. STEIN: Are those pictures a fair representation of what exists today?

VOICE: Yes.

MR. DOWNES: Right now as of today. Now, these pictures were taken November 2. And here we see the lumps of solids coming over the spillway. And there you see the solids in the ditch below the spillway.

VOICE: Those water samples were taken 8/17.

MR. DOWNES: Now, we have here other jars --

MR. HERRIN: That came out of Richardson's Slough. It's about 18 inches deep on the average. It is eight feet wide and it flows at the rate of four feet per second. Now, if somebody is engineer enough to figure that out, I imagine it comes to close to 400 gallons per second.

MR. DOWNES: These were the solids that were in a waste ditch November 2.

This is water at Palestine Road Bridge. You can detect an odor.

This is water directly below the spillway.

MR. THOMAN: How far is that bridge at Palestine Road from Richardson's Slough?

MR. DOWNES: About six miles -- that's an estimate. This is where the waste ditch enters the creek.

Now, we are on the East Pearl River, the interstate river. And you can still detect an odor. These are the solids that are in the creek all up and down it.

MR. THOMAN: I notice you didn't take the top of the solid jars off.

MR. DOWNES: Yes. It is loose.

MR. THOMAN: I mean, we might have to leave the table.

MR. DOWNES: Now, as I said, you can see how an emotional air would develop and has developed for a number of years. We simply haven't been in a position to do anything about it. We hope now we are.

Accompanying this pollution state is a nuisance for the residents that live right around this delta of pollution that you saw on the motion film.

And we have a committeeman here who is a resident of that area and has been for a number of years -- Mr. Frank Gordon. Frank, we would like for you to come up and present a petition and make a statement of the condition of the odor.

MR. FRANK S. GORDON (Committeeman, Pearl River County Fish and Wildlife Conservation Club, Picayune, Mississippi): My name is Frank Gordon. I live just a few hundred feet from the edge of this swamp that this stuff is settled in. I have been living there a little over eight years and it has worsened over this period of years.

I have inspected the stream almost weekly, ever chance I get, and it is, as I said, continually growing worse. I have a petition here from the people that live in the very near proximity.

It is addressed to Mr. Robert Wright.

"We, the undersigned citizens and residents of the Neal Road area, Picayune, Pearl River County, Mississippi, declare that we have been living under the following conditions imposed upon our community by the Crosby Chemicals, Inc. plant, to wit:

"(1) Fumes and putrid odors coming from approximately forty (40) acres of swamp land that pitch, residue and other chemicals have been building up in for more than ten (10) years.

"(2) Three homes in this area are in constant danger from the fire hazard imposed upon them by flammable rosins, etc. A fire occurred here a few years ago that was so intense that large cypress trees were completely consumed -- one family was forced to move all of their possessions and had the wind been from a different direction, two homes and possibly a third would have surely been destroyed.

"Therefore, we request that you do not accept any plan for any pollution abatement system that would incorporate a lagoon in this same location by building a levee around this area thus worsening this condition and increasing the hazards by fire."

We have some copies for you gentlemen.

MR. STEIN: We would like to have a copy for the record if we may. Without objection, that will be entered into the record.

(The above-mentioned petition from residents of the Neal Road area, Picayune, Pearl River County, Mississippi follows)

MR. DOWNES (President, Pearl River County Conservation Club, Picayune, Mississippi): We are not technical people. We can't tell you we know a lagoon system won't work. We can simply say that this accumulation that is there now does affect flood waters of the creek and in times of high water carries these solids, liquids, into other areas and that it is a nuisance to live around it.

We would hope, Mr. Wright, that any lagoon system similar to the accumulation or that would create a similar condition of accumulation would not be accepted.

Now, as I say, we know industry is vital to the community. And we remind you, again, so is the community vital to industry. We can assure you nothing is vindictive or malicious, though we have been so accused in the matter. There are simply hundreds of people in our area that feel the same way about it and are not in any position to do anything about it. As far as for the company, we simply have to refer you back to the September 19 news statement. Tom, I assure you, if you clear it up, you won't hear any more out of us.

MR. ROBERT S. WRIGHT
EXECUTIVE SECRETARY
MISS. AIR AND WATER POLLUTION CONTROL COMM.

We, the undersigned citizens and residents of the Neal Road Area, Picayune, Pearl River County, Mississippi, declare that we have been living under the following conditions imposed upon our community by the Crosby Chemicals, Inc. plant, to-wit:

1. Fumes and putrid odors coming from approximately Forty (40) Acres of swamp land that pitch, residue and other chemicals have been building up in for more than Ten (10) years.

2. Three homes in this area are in constant danger from the fire hazard imposed upon them by flammable rosins etc. A fire occurred here a few years ago that was so intense that large cypress trees were completely consumed - one family was forced to move all of their possessions and had the wind been from a different direction two homes and possibly a third would have surely been destroyed.

Therefore, we request that you do not accept any plan for any pollution abatement system that would incorporate a lagoon in this same location by building a levee around this area thus worsening this condition and increasing the hazards by fire.

<u>Mr. Kenneth Ray Kelly</u>	<u>Mr. Louis J. Boyd</u>
<u>Mrs. Kenneth Ray Kelly</u>	<u>Louise J. Boyd</u>
<u>Mr. & Mrs. Bob Boyd</u>	<u>Bill Boyd</u>
<u>Cleveland McQueen</u>	<u>Mrs. Leticia McQueen</u>
<u>Mrs. Cleveland McQueen</u>	<u>Pauline McQueen</u>
<u>Kufner R. Neal</u>	<u>James R. Neal</u>
<u>William Neal</u>	<u>William Neal</u>
<u>Charles R. Neal</u>	<u>Richard R. Neal</u>
<u>W. A. Carter</u>	<u>Leonia Callender</u>
<u>Orville Williams</u>	<u>W. A. Carter</u>
<u>Morris Williams</u>	<u>Frank R. Gordon</u>
<u>Edgie Williams</u>	<u>Mrs. Frank R. Gordon</u>
<u>Mrs. Clinton Carter</u>	<u>Clinton H. Carter</u>
<u>Clinton H. Carter</u>	<u>Frank R. Gordon</u>
<u>Frank R. Gordon</u>	<u>Mrs. Bob Boyd</u>

Our final petition concerning the Crosby Chemical pollution is to be this:

"Mr. Murry Stein, Federal Water Pollution Control Administration.

"Dear Sir:

"On the basis of statements by individuals and evidence presented, the undersigned committeemen speaking in behalf of the entire membership of the Pearl River County Fish and Wildlife Conservation Club, respectfully submit the following statements and request.

"(1) That Hobolochitto Creek is the main tributary of East Pearl River, and in times of low water, furnishes the bulk of water for East Pearl River, and if Hobolochitto Creek is polluted, East Pearl River is in fact polluted.

"(2) That East Pearl River is now a part of the Pearl River Basin and is under study for further development by the Pearl River Basin Development District, and is an interstate stream.

"(3) That the waste from Crosby Chemicals, Inc, has for a number of years polluted Hobolochitto Creek, and is now polluting Hobolochitto Creek whenever the plant is in operation.

"(4) That the present pollution elimination lagoon on the waste ditch of Crosby Chemicals, Inc., is not eliminating the pollution and is in fact, a sham.

"(5) That the overflow from the so-called pollution elimination lagoon is continuously carrying poisonous solids and chemicals into Hobolochitto Creek, by discharging into what was once a natural spring-fed swamp area that in its natural state contained unpolluted water at all times sufficient in quantity and quality to sustain all sorts of fish and fish food and sustain the water needs of wildlife.

"(6) That this swamp area was the headwaters of Richardson Slough and that Richardson Slough is a main flood water tributary for Hobolochitto Creek and empties into this creek at several points, and that Crosby Chemicals, Inc., waste ditch enters into Richardson Slough and then into Hobolochitto Creek.

"(7) That the above mentioned swamp area is now a delta of chemical waste of more than 20 acres deposited by and being deposited by the waste ditch from Crosby Chemicals, Inc., and that unpolluted water running through this delta of waste would pick up contamination as it moves along.

"(8) That flood waters standing over this delta of chemical waste can and does pick up poisonous chemicals and solids, and in the course of running out, carries them into the creek and adjacent lakes.

"(9) That deposits of pine-pitch solids that have been deposited and are being deposited in the bed of Hobolochitto Creek by waste from Crosby Chemicals, Inc., together

with the dam constructed across Hobolochitto Creek by Crosby Chemicals, Inc., has in fact slowed the flow of water causing the flow of water in East Hobolochitto Creek to be slowed, thereby hindering East Hobolochitto Creek from recovering from silt imposed on it by storm sewers from the City of Picayune."

Now if we still have a pollution problem as far as the city goes, it would be on East Hobolochitto Creek. We have storm ditches - storm sewers - that do come in at several points. We made a study of that creek, and after hard rains I've been on the creek and paddled it out and the creek gets a heavy load of stuff coming from the city -- that is, in fact, silt, soil and earth, etc. And in the years past, I lived for 20 years right there on East Hobolochitto Creek -- in the years past, the creek has recovered from these hard rains. It would shortly recover because the creek had a pretty good current in it. But now, as this dam has been built higher and higher, and as the clogged condition due to this pine-pitch residue down below, which, in times of high water, even though the water is going over the dam, it slows it up down there. And East Hobolochitto simply does not have the chance to recover that it once had, due to this slowing of flow water by the dam and by this clogged condition farther down. There, again, as far as technicalities, we can't give you technical opinions; we can simply tell you what we have seen down through the years.

MR. STEIN: Thank you. You described that very well. You know this stormwater overflow is not a very easy problem to solve in Picayune or any other town. The notion is that if you dam this up if you don't have a flow in the stream, you are borrowing a problem.

MR. DOWNES: We know that in order for a stream to recover it has to move and the faster it moves the better. We know that simply from experience.

"(10) As we consider the above statements to be true and substantiated by evidence and common knowledge, we ask that the Air and Water Pollution Control Commission take immediate action to stop Crosby Chemicals, Inc., from further pollution of Hobolochitto Creek and that Crosby Chemicals, Inc., be instructed to carry their discharge water through the delta of pollution by means of water-tight conduit so as to keep the discharge water from becoming polluted; and that Crosby Chemicals, Inc., be further instructed to eliminate the polluted delta sufficient to keep flood waters of Hobolochitto Creek from becoming polluted."

This is signed by our committee. Mr. Stein, I wish to submit a copy of this to you for the record.

MR. STEIN: This will be entered into the record.

(Petition from the Pearl River County Fish and Wildlife Conservation Club follows)

Pearl River County Fish & Wildlife Conservation Club

P. O. Box 702

PICAYUNE, MISSISSIPPI 39466

November 4, 1968

Mr. Murray Stein,
Federal Water Pollution Control Administration

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2. That East Pearl River is now a part of the Pearl River Basin and is under study for further development by the Pearl River Basin Development District, and is an interstate stream.
3. That the waste from Crosby Chemicals, Inc., has, for a number of years polluted Hobolochitto Creek, and is now polluting Hobolochitto Creek when-ever the plant is in operation.
4. That the present pollution elimination lagoon on the waste ditch of Crosby Chemicals, Inc., is not eliminating the pollution and is in fact, a sham.
5. That the overflow from the so-called pollution elimination lagoon, is continuously carrying poisonous solids and chemicals into Hobolochitto Creek, by discharging into what was once a natural spring fed swamp area that in its natural state contained unpolluted water at all times sufficient in quantity and quality to sustain all sorts of fish and fish food and sustain the water needs of wildlife.
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Associated With



Pearl River County Fish & Wildlife Conservation Club

P. O. Box 702

PICAYUNE, MISSISSIPPI 39466

Hobolochitto Creek and empties into this Creek at several points, and that Crosby Chemicals, Inc. waste ditch enters into Richardson Slough and then into Hobolochitto Creek.

7. That the above mentioned swamp area is now a delta of chemical waste of more than 20 acres deposited by and being deposited by the waste ditch from Crosby Chemicals, Inc., and that unpolluted water running through this delta of waste would pick up contamination as it moves along.

8. That flood waters standing over this delta of chemical waste can and does pick up poisonous chemicals and solids, and in the course of running out, carries them into the Creek and adjacent lakes.

9. That deposits of pine pitch solids that have been deposited and are being deposited in the bed of Hobolochitto Creek by waste from Crosby Chemicals, Inc., together with the dam constructed across Hobolochitto Creek by Crosby Chemicals, Inc., has in fact slowed the flow of water causing the flow of water in East Hobolochitto Creek to be slowed, thereby hindering East Hobolochitto Creek from recovering from silt imposed on it by storm sewers from the City of Picayune.

10. As we consider the above statements to be true and substantiated by evidence and common knowledge, we ask that the Air and Water Pollution Control Commission, take immediate action to stop Crosby Chemicals, Inc., from further pollution of Hobolochitto Creek, and that Crosby Chemicals, Inc., be instructed to carry their discharge water through the delta of pollution by means of water-tight conduit so as to keep the discharge water from becoming polluted; and that Crosby Chemicals Inc., be further instructed to eliminate the polluted delta sufficient to keep flood waters of Hobolochitto Creek from becoming polluted.

Respectfully submitted by the undersigned
Committeemen of Pearl River County Fish
and Wildlife Conservation Club.

md-es

Affiliated With

Cc: Mr. Robert S. Wright
Cc: Congressman, Bill Colmer.



Fred L. Lumphrey
Melvin M. Wright

Elton H. Cray
Rufus L. Lumphrey
Frank S. Bolden
Wansfield Downer
Harry Cooper
Charles E. Lewis

MR. DOWNES: I submitted Mr. Wright a similar copy, except, Mr. Wright, this has been amended slightly from the copy that I gave you in August of this month.

I believe that completes our presentation on the problem of Hobolochitto Creek.

Now, we would like to deal some with our half of the Pearl River. And while we have a report from various officials at Crown Zellerbach as to what they were doing -- here, again, we know what they are doing from experience -- what's happened down through the years as far as the fishing and the value of the stream for general recreation purposes. We know how the stream has deteriorated. And one of the main things we have seen is a difference in fish food -- the bottom stuff that fish usually feed on.

Mr. Roy Lumpkin, if you will, come up and give some idea of what has happened to our fresh-water shellfish.

MR. RUFUS L. LUMPKIN (2nd Vice President, Pearl River Conservation Club, Picayune, Mississippi): I have fished on that river and I have enjoyed it very much. When I go down to the river, I watch the water. And when I see bugs in it, I don't know what it is -- it appears in the water, a little string about yea long (indicating) -- smell a bad odor in the water. well, you don't catch fish. And in a period of time, it's worse than it is at others.

MR. STEIN: Would you describe that again, please. I am trying to zero in.

MR. LUMPKIN: It's a stringy looking subject. From what I can gather, it's coming from the paper mill. It has to be something from it. It gets in the water and it looks like a string.

MR. THOMAN: Does it look like a slim like --

MR. LUMPKIN: I caught some fish that was sick and this stuff cakes on the gills.

MR. STEIN: I don't want to put words in your mouth here, but we are trying to find out what this is. Did this look like paper fibers?

MR. LUMPKIN: It's a brown mucky-looking stuff and it will hang on a trotline --

MR. STEIN: In a string or mat?

MR. LUMPKIN: Just coats on it. If your line is a small line, it will be big as your finger if it stays there two or three days. Your bait will get completely covered if you don't run your line often and keep it shook off. Therefore, you can't catch fish because they can't even find the bait. We did go up here at Sandy Hook. There's a lot of good mussels -- you can see them along the edge of the water. But you don't see many. Well, in this black mucky-looking stuff on the bottom of the river down there, and nearly anytime you go there, you see this mucky stuff in the water, now, what it is, I don't know. But I do know that it affects the fish, and that's about all I can say for it.

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THIS REBUTTAL TO STATEMENTS CONCERNING TRESPASS OF AND POLLUTION OF HOBOLOCHITTO CREEK PRINTED IN THE PICAYUNE ITEM ON SEPTEMBER 19, 1968 AND SIGNED BY R. H. CROSBY WAS REFUSED PUBLICATION BY THE PICAYUNE ITEM.

September 21, 1968

**The Picayune Item
Letter to the Editor**

Concerning an article in the Picayune Item on September 19, 1968, signed by R. H. Crosby and referring to a recent broadcast on Television Station WDSU about pollution of and public use of Hobolochitto Creek in the Picayune area, we, the undersigned have the following statements to make.

Frank Gordon, David Gordon, and Mansfield Downes were duly appointed by the Board of Directors of the Pearl River County Fish and Wildlife Conservation Club to accompany and assist the WDSU news team in preparing the news report aired on August 30, 1968. The Membership of the Pearl River County Fish and Wildlife Conservation Club are indeed very disgruntled over the conditions of the Creek that have existed for far too many years.

As to the charge made of repeated trespass of Crosby property, David Gordon, Mansfield Downes, Rufus L. Lumpkin and Elton McCraney, were in attendance at a meeting in the Sheriff's Office in Poplarville, Mississippi, July of this year with chief Deputy Sheriff J. P. Walker and County Attorney L. Jack Stewart, at which time both Walker and Stewart stated that they did not know that entry on the Creek by boats from Highway property, was an act of trespass. A charge of trespass of the Creek made by the Crosby interest against David Gordon and Mansfield Downes has been dropped by the State. Pearl River County Deputies on guard at Highway 43 bridge do not arrest persons going on the Creek in boats.

Members of the club have authentic information that the court records do not reveal any ruling by the Courts of Mississippi on the navigability or non-navigability status of Hobolochitto Creek.

As to the pollution on the Creek being a result of recent fires, we have statements signed by residents with personal knowledge of the condition which confirms the fact that the pollution by Crosby Chemicals has been almost continuous for more than ten years.

The Creek does not recover from the pollution imposed in it by Crosby Chemicals, Inc. before it leaves Crosby's property as confirmed by additional statements signed by riparian

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As to the pollution on the Creek being a result of recent fires, we have statements signed by residents with personal knowledge of the condition which confirms the fact that the pollution by Crosby Chemicals has been almost continuous for more than ten years.

The Creek does not recover from the pollution imposed in it by Crosby Chemicals, Inc. before it leaves Crosby's property as confirmed by additional statements signed by riparian and adjacent property owners down stream from Crosby's property. A United States Coast Guard report on inspection and analysis of the stream dated July 5, 1968, shows pollution as far down stream as East Pearl River. This report was published in The Picayune Item, August 28, 1968. A meeting in Jackson, Mississippi on August 22, 1968, concerning pollution in Rankin and Pearl River Counties, was attended by the undersigned, with the exception of David Gordon. At this meeting, Mr. Robert S. Wright, Executive Secretary of the Mississippi Air and Water Pollution Control Commission, stated that his Commission had all the facts necessary for taking action against Crosby Chemicals, Inc., for pollution of Hobolochitto Creek.

Signed By:

MANSFIELD DOWNES

DAVID GORDON

J. D. HERRIN

MELVIN M. WEST

FRANK GORDON

RUFUS L. LUMPKIN

ELTON McCRANEY

MR. DOWNES: This would be some of the same factors, but we feel the statements of various members would be of value. So I want to call on Mr. Melvin West.

MR. MELVIN M. WEST, JR. (Director, Pearl River County Conservation Club, Picayune, Mississippi): I am Melvin West, Jr., and I watch commercial fishermen on that river quite often. And I know it to be a fact that when you put nets out, you leave them two days, your mesh in your legal nets are pretty near closed. And it's that black fiber -- slimy stuff -- it will cling to your net. It comes from the paper mill. And I know there are no mussels left in the river and that's the main thing for catfish to feed on.

MR. STEIN: Let me talk to you fellows here. Do you have any idea what that material might be?

(Discussion among conferees re: sphaerotilus)

MR. WEST: When the river gets up, it goes all over the swamp. When it throws it out, your sandbars and all are covered with this stuff and it banks in.

You go in the river swamp after the river goes down, all your timber, all of the twigs and everything, there will be pieces two and three feet long hanging off of that stuff with that hard fiber. It will get hard. It's nothing but dried paper. And that is about all I have got to say. It's pulp that is coming from the mill, so far as I know.

MR. STEIN: Thank you.

MR. DOWNES: Mr. Fred Lumpkin.

MR. FRED E. LUMPKIN (Pearl River County Fish and Wildlife Conservation Club, Picayune, Mississippi): Well, my name is Fred Lumpkin, and Mr. Wright knows -- he has been in contact with me sometime before; and before the Pearl River County Fish and Wildlife Conservation Club was formed, I began battling this situation. But since I started the battle, I have lost a \$1,000 fish plant. Some of my good friends burned it up -- said they didn't enjoy it anymore.

This stuff gets in the gills of the white perch -- I know it has an effect on them. It kills the tabby cat. And it has a big effect on the bluegill brim. I have caught them and put them in a stainless steel bowl, put artesian water in with them, and it turned blue like it's got smut in it. So I assumed that this was coming either from some other source of either the pulp mill here in Bogalusa, which I believe at that time was a source of this stuff that we are talking about, or was the pulp of the mill.

If you make a study, you could find that it was something else. But it does get on the bushes and it does get on your lines, and I wouldn't dare drink any of it.

I simply ask the Board to do everything reasonable to stop this situation. And I do consider that it is acute. The time is far past overdue that something is being done about it.

And I will just say, I'm just an old poor country-raised boy. I work like the devil for a living and I enjoy fishing. And it is downright disgusting to set your trotline and go back and have

a trotline full of waste instead of pretty fish.

I love to catch those tabbies. I have enjoyed it much. That is about all I can say for it, but these things are true.

MR. STEIN: I would like for the conferees and everyone else to listen to this because this does cause a problem. In the report that our scientists prepared in 1963, they talked about Bogue Lusa Creek and the waters around here. This is repeated several places.

"The water was distinctly colored, odoriferous and carried a large quantity of suspended wood fiber. Digested sludge was not evident on the bottom; however, freshly deposited wood remains composed of chips, bark and fibers were noted. A sludge bank formed at the mouth and was covered with a matted 'fiberboard' where the recently deposited wood fibers had been exposed to dry."

Now, if, in fact, this is not sphaerotilus, but it is a fiberboard and then we have this statement from Crown Zellerbach that substantially all the suspended solids have been removed and your people ask that you remove the fibers - I think we may have a factual question that we are going to have to examine if this is still the problem that you people are finding.

MR. DOWNES: It is still the problem.

MR. STEIN: Thank you.

MR. DOWNES: I would like to ask if the Mississippi Game and Fish representative is here, I can't imagine why they wouldn't be here.

Will it be entered in the record that they are not present?

MR. STEIN: I think the record speaks for itself.

MR. DOWNES: I believe that about concludes our presentation, except, speaking for the group and for the club, and, I think, for the residents of the Picayune area, we will cooperate with industry. We want to cooperate with industry, whenever industry will show to us that they do have genuine -- are making a genuine and factual effort toward correcting these problems that are simply harrassing our whole population. I thank you.

MR. STEIN: Thank you very much, Mr. Downes, for a comprehensive presentation.

Do any of the conferees have any questions or comments?
Mr. Wright, will you continue, please.

MR. WRIGHT: The next speaker on the list would be Mr. T. L. Crosby of the Crosby Chemical Company.

MR. STEIN: The pictures that were submitted will be entered in the record at the appropriate point. Of course, they will appear in black and white rather than in color.

MR. MAURICE DANTIN (Attorney, Crosby Chemical, Inc., Columbia, Mississippi): I am the attorney for Crosby Chemical, Inc. At the previous New Orleans hearing, Mr. T. L. Crosby stated the interest of the company in pollution abatement.

Now, I want to reaffirm the interest of Crosby Chemicals and recognize the obligation of industry to abate pollution in public streams and recognize this obligation to the public and to the community in which they exist.

In fact, at the New Orleans hearing, some several years ago, Mr. Crosby presented a plan of Crosby Chemicals, Inc., to eliminate pollution caused by it on the Hobolochitto Creek. That plan called for a new retention reservoir system with a trap system.

The company followed through with that plan and, in fact, has expended almost \$150,000 since that hearing trying to abate its pollution problem. It was anticipated that this system which would be installed would completely eliminate all contaminants which escaped from the Crosby plant.

The fact of the matter is, as was stated at the New Orleans hearing, all contaminants or all products that escape from the plant are an expense item to the plant because they are saleable, usable items of the industry.

Well, the fact of the matter is, the system which was installed did not completely contain all of the contaminants. However, the water, when it leaves our detention system at the trap, does have a good oxygen content within the minimum stated at the last conference.

And water effluents or contaminants which do escape are greatly magnified because of this 1964 fire which was mentioned previously. This fire occurred in a swampy area of some 20 to 40 acres.

The area is between the retention system and Hobolochitto Creek and the discharge or effluent ditch flows through this area. Now, contrary to what was stated earlier, this swampy area and the heavy resinous materials located in there have not been of recent acquisition.

In fact, they go back to the early 1930s, on into the 1950s, when the industry was a wood industry. And those heavy resins were deposited at that time in that swampy area.

However, it never caused any problem until 1964 when this fire occurred. And when the fire occurred, it caused all of it to melt into the ground and it is a boggy, soggy area.

The pictures as shown of that swampy area are accurate. In fact, we would like to submit four photographs which were taken this month of that area and they reflect the pictures as were shown by the motion picture.

MR. STEIN: Are these to be submitted for the record?

MR. DANTIN: Yes, they are submitted for the record.

MR. THOMAN: Mr. Dantin, do you want to identify the dates on these?

MR. DANTIN: These were taken during October ---

VOICE: November 5.

MR. DANTIN: November 5, 1968.

(The above-mentioned photos follow).





MR. DANTIN: Now, when this fire occurred, these old resinous materials were melted, and as the effluent stream went through it, they now seep into that stream. So a great portion of your contaminants are not coming from just the plant operation itself, but from this old area, and the problem didn't occur until the fire.

In addition to that, there were several disastrous plant fires that have occurred in recent times which caused the flooding of water into the creek. And I might state, a great deal of the pollution of Hobolochitto Creek which is laid at the feet of Crosby Chemicals, Inc., is misplaced.

And I'll cite you an example. On July 11, 1968, there was a fish kill on Hobolochitto Creek. Crosby Chemicals was very interested in that and, in fact, reported the kill to the Mississippi Air and Water Pollution Control Commission which made a series of tests up and down the Hobolochitto Creek to find out about it.

A great many people laid the blame of the fish kill on Crosby Chemicals, and we were vitally interested in that, because the plant was shut down from June 24 to July the 20th-- was not in operation -- didn't discharge any effluents and, consequently, could not have caused that particular fish kill.

But really, irrespective of the causes of the pollution of Hobolochitto Creek and even regardless of the degree of pollution which may or may not be exaggerated or even disputed, and we will

concede at the area where these photographs were taken, they do look bad.

But regardless of that, the fact is that Crosby Chemicals did make an effort previously, which did not attain the success that we had hoped. We did not anticipate the 1964 fire.

But even underlying all of that, the fact remains that Crosby Chemicals is now under an Order of the Mississippi Air and Water Pollution Control Commission which was entered on October 18, 1968.

This Order requires an ultimate elimination of all of the pollution problem on Hobolochitto Creek which is caused by Crosby Chemicals, Inc.

There was an opportunity for a protest or a contest by the corporation. There was no contest and there was no protest. The Order requires three basic things:

(1) Within 30 days the company must utilize the services of a competent engineer to draw up the plan to eliminate the pollution.

In fact, we took this first step before the Order was entered.

(2) The second requirement of the Order was that in six months a realistic plan of action must be submitted.

(3) The third requirement was that within 12 months construction must be initiated.

Crosby Chemicals, Inc., has complied with this Order -- will comply with this Order, to the end that within a very brief period of time, we anticipate a completely closed system in which no effluents of any kind or nature will escape from Crosby Chemicals, Inc. And when that is done, there can be no doubt but what Crosby Chemicals, Inc., is meeting its responsibilities to the public. Its meeting a responsibility to its stockholders in that it would be losing no effluents of any nature. And as an aside, I think it will also have the very happy effect of reducing the length of these hearings in the future.

Now, present in the audience is Mr. T. L. Crosby, who is the Vice-President of the company, and Colonel Robert Naylor, with Benham-Blair and Affiliates, our Engineer, and Mr. K. N. Burgess, Superintendent of our plant. And we will be happy to answer any questions that the conferees might have.

MR. STEIN: When do you think that Crosby Chemicals' system might be in operation?

MR. DANTIN: When do we anticipate the closed system will be in operation? Well, construction must be commenced within 12 months.

MR. STEIN: Complete and in operation?

MR. R. H. NAYLOR: Within 18 months.

MR. DANTIN: Within 18 months.

MR. STEIN: Are there any other comments or questions?
I don't know if we have proved too much here. If your contention

is true that a good portion of this is coming from the burnt-out area, then the closed system is not going to completely clear up the problem -- if that seeps out. Now, this is Crosby Chemicals' property, isn't it?

MR. DANTIN: Yes.

MR. STEIN: What are you going to do about that?

MR. DANTIN: Incidentally, most of the water going into Richardson's Slough, which comes through the plant there -- the water is placed there because of chemicals.

We have five wells constantly drawing water, plus what is drawn from the creek. It adds a lot to Hobolochitto Creek.

On our closed system that water won't be flowing, and that drainage ditch which now goes through that area will not be flowing through there for the seepage to occur.

But, in addition to that, I am informed by the engineer for the company that we must also build some block to prevent that area -- the swampy area, the resinous area -- where the fire occurred-- from draining into Hobolochitto Creek. But it would take some kind of dike or blockage system to prevent that. That was anticipated.

MR. STEIN: Now, every time we come up with a solution we always have a new problem.

MR. DANTIN: Yes.

MR. STEIN: I think that since Picayune put in its treatment facility the thing that always rears its ugly head, because you didn't notice it before, is the stormwater overflow. Now if in fact,

and I ask you, you have a blockage and are having a problem from the stormwater, you possibly may want to get together with Picayune. I am sure everyone knows stormwaters are the street waters that come in after a rain and are not treated. I don't know whether it exists -- we just heard about that.

MR. DANTIN: I am a former Mayor, I understand what you are talking about.

MR. STEIN: It might be advisable to have some kind of system in your dam and the water supply, so that after a rain it can be adjusted and it can go on through. Again, I would hate to see you complete a program and another problem, if that can be anticipated, would arise and we would have to come back for another hearing. I am making no judgment as to whether that exists or not. We have heard about this. We know that sometimes we have cleaned up a pollution problem or thought we had, and then this pesky old stormwater situation comes up and people say, "I thought you cleaned up the pollution problem and here we still are." Now if this can be built in or you people can see your way clear to do this; if in fact this is a problem -- I suggest you give that consideration.

MR. DANTIN: I am sure we will. I am not familiar with this to make any definite statement, but I am sure it will be considered.

MR. STEIN: Now, are there any other comments or questions on this? If not, thank you very much sir.

MR. WRIGHT: That completes our list.

MR. LAFLEUR: I have a question I would like to direct to either Dr. Amberg or either one of the three representatives he is affiliated with.

Doctor, I want to ask, if or not the fisheries biologists during the survey on the Pearl River had observed the material that has been reported gathered on these lines or nets? And if so, what do you feel it was? Was it sphaerotilus or what? Dr. Amberg, could you answer the question, please?

DR. AMBERG: Yes, sir. We think it was sphaerotilus or an organism similar to sphaerotilus.

MR. LAFLEUR: Have the biologists noticed this in their reports?

DR. AMBERG: Yes, they had noticed this during certain seasons.

MR. STEIN: We can have a discussion now, if you wish, or we can take a recess for about ten or 15 minutes and then come back for a discussion.

Would you rather recess and check with your staff? We will stand recessed for ten minutes and then the conferees will have a discussion.

(Whereupon the meeting recessed from 4:15 p.m. to 4:25 p.m.)

EXECUTIVE SESSION

MR. STEIN: May we reconvene. Let me go over points one by one and see if we can get the views of the conferees.

I think this has been a tremendously useful session in dealing with the problem of the pollution of the Pearl River. I believe it is fair to say that the condition that we discovered before, to a large extent, still exists -- that municipal and waste discharges originating in the interstate waters of the Pearl River cause pollution in Louisiana and Mississippi; we have municipal discharges from Bogalusa and industrial waste discharges from two industries -- Crown Zellerbach and the Crosby Chemicals Company.

In large measure, we can point with pride that Picayune, Mississippi, has installed adequate waste treatment facilities, and we hope that we will not have problems with their stormwater and that that can be handled and alleviated. But, in many of these cases, often when you clean something up you unmask problems which existed before. We may have to meet that.

Again, I think that it is really clear that the time schedule and the dates established by the State and Federal conferees in 1963 were not met and we have a lag. The fact that other people have had slippages does not make the water any cleaner here. Possibly this lag may have served a useful purpose. I know in the case of Bogalusa there are very special circumstances because the city administration and the State certainly moved ahead with the program.

The program was defeated in a municipal bond issue. This is a fact in the life of America that we have to accept. I think, though, that the people in this area have to recognize that maybe you accept, or the State and Federal regulatory authorities can

accept one bond defeat. But after that, we really have to buckle down and get working on the cleanup because we do have Federal and State obligations to keep these waters clean. We do have a statutory obligation to see that the waters are abated. I think that the mayor of Bogalusa indicated a forward-looking program, which under the circumstances is very feasible and very reasonable. That is a plan to propose to the city council that an engineering firm be engaged, that planning funds be secured, and that a plan will put this issue before the voters in 1969.

I think the situation we have from Crown Zellerbach is that, as an interim measure, they are to be commended on ingenuity and their activity in putting in the plans. We would endorse the plan of providing secondary treatment for the Crown Zellerbach waste and those works to be in operation by 1972.

Again, with the Crosby Chemicals Company we have to agree that the chemical company has made an effort to clean up pollution. I don't suppose that there are any of the major dischargers in the area who believe that the pollution should not be abated and who do not believe that they have to take action and have not indicated their willingness to take action.

Now, due to various circumstances, of course, the river is not cleaned up. Now, I do think that if the Crosby Chemicals Company has a closed system for the plant and has made adequate provision for stopping the flow from the burned-out area, we may

also have an adequate solution to the problem, and the 18-month period they gave from now is commensurate with the time period for the others. Then I think we are on our way.

I would like to emphasize that any other slippages for whatever reason, in the time schedule, after considering the past history of that, will have to be looked at very, very carefully, I am sure, by the State and certainly the Federal Government.

Now, there are several aspects of this which have to be looked into very, very carefully. I am sure you heard the testimony of the people from the conservation groups and the citizen groups. I would like to say to you people, you have made a very important contribution to this, because it is my belief you can get information from citizens groups and people who know the river which is just as valuable as the information which you get from the scientists who come in. It may be expressed in different terms, but no one knows the river or the water better than the people who have been out there all their life. I have seen this over and over again in these cases.

You have raised several points about discharges in the Pearl River below the Crown Zellerbach plant and discharges in the creek. We, I think, will propose, together with the States, to have a continuing analytical and monitoring program for these waters:

1. To be assured that the programs developed by the municipalities and industries concerned are, in fact, going to abate the pollution and this will do the job.

2. To see that they are maintained and operated in a manner so that the pollution will be abated.

One further caveat or reservation. I think I am speaking for the States and for us. Up to the present time, we have a declaration of intent from Crown Zellerbach as to its kinds of treatment, from the City of Bogalusa and from Crosby Chemicals.

Until the State agencies initially see these plans and analyse them and see if they will do the job, this obviously does not constitute approval. This will have to be done very carefully on a case by case basis.

As these plans come in, they, I am sure, will give those their very careful scrutiny, and as appropriate, the Federal Government will cooperate with the State agencies in this regard.

I believe we have had a thorough airing of the problems here. I suspect that the approval of the plans, as they come in, will be measured by the yardstick of whether they are going to eliminate the problems, or whether they will not. There are very serious problems, indeed, that we have heard here today.

I am certain the problems we have here are amenable to solutions that are within our technical knowledge. I am sure the companies represented here and the cities and the American engineering profession can come up with answers to these problems.

We are going to stay with it and we are going to check very, very carefully to see that the time schedule is adhered to. I think you can expect that if the time schedule is not met, and I

mean met, there will be very rapid action by the governmental agencies concerned to see why this isn't so.

Are there any further comments or questions?

MR. LAFLEUR: I have a question, Mr. Chairman. I should like to determine from -- and I must admit, I was not aware that we had lines and nets, etc., plugged up with sphaerotilus in the area we have been discussing today. I am aware of the fact, if it is still there, it has certainly been markedly reduced since primary treatment has been put on the stream. Of course, the company was confronted with the difficulty of "debugging" this unit and I know that they had a tremendous problem. But the question I would like to ask of Dr. Amberg is if or not he feels that the secondary treatment would tend to completely eliminate or markedly reduce this phenomenon?

DR. AMBERG: Yes, it will.

MR. STEIN: One thing I had in mind for a possible solution, Mr. Lafleur, was a possible analysis of the material that was on those nets and a tracing of this to a probable cause. Also the quality of the water should be monitored and an analysis made of what is coming out or being discharged from the Crosby Chemicals source, and then ascertain whether that is going to do the job. That is why I mention this analysis and monitoring, because I think there are some loose ends here. Fortunately, I think they are technical and that we have to tie them down.

As far as we are concerned in the Federal Government, we are going to assign this as a high priority. While this is a State -- primarily a State problem -- and this will be done under the authority, I hope, of the State governments, we will be happy at their request to supply the necessary technical staff to do the job and get some of these questions answered and nailed down.

This will hopefully enable the States to make a clear judgment when the plans come in for the treatment facilities.

Are there any other questions or comments from the conferees?

MR. TRYGG: No.

MR. STEIN: I think we have gone a long way in this. Let me try to say this: I have the feeling now that we see the daylight for a clean Pearl River.

But I am not sure we had this feeling last time. However, if you would examine this document, and it is a big one, of the last conference on the Pearl River, we also had some very sanctimonious and pious statements on how the river was going to be cleaned up. It is long past the date and it is not cleaned up.

I hope by all of us working together, because we know each other better, and I think we know the problem better, that we are not going to have any other proceedings constituted in this, and we are going to meet these deadlines, and we will all come back to a Pearl River -- and maybe I could go down below those bridges and catch some catfish myself sometime.

If there are no other comments or questions from anyone,
I would like to thank you all for coming and participating. I
think we have made some tremendous advances. We stand adjourned.

(Whereupon the conference adjourned at 3:52 p.m.)

(The following letter and enclosures were submitted for the
record after the close of the conference. The 16 August 1968
letter and enclosures was submitted separately by Mr. Downes also
after the close of the conference.)

Pearl River County Fish & Wildlife Conservation Club

P. O. Box 702
PICAYUNE, MISSISSIPPI 39466

November 8, 1968.

Mr. Murray Stein,
Federal Water Pollution Control Administration,
Department of Interior,
Washington, D. C.

Dear Mr. Stein:

Through oversight, the enclosed copy of U. S. Coast Guard report and an analysis of July 5, 1968, on pollution of Hobolochitto Creek and East Pearl River in Pearl River County, Mississippi, was not submitted by our Committee to the conference at the meeting in Bogalusa, Louisiana on November 7, 1968.

If permissible, we ask that this report be entered into the record of the conference.

Respectfully,

Pearl River County Fish and
Wildlife Conservation Club,

Mansfield Downes
Mansfield Downes, President

encl.

Affiliated With



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TREASURY DEPARTMENT
U. S. COAST GUARD
CG-3639 (Rev. 11-61)

REPORTS CONTROL
SYMBOL OPL-2101

WATER POLLUTION (Check applicable Violation (e))

- ☐ OIL POLLUTION ACT OF 1961 (Discharge of oil by vessels within prohibited zones of the high seas.)
- ☐ OIL POLLUTION ACT OF 1924 (Discharge of oil by vessels in waters within the territorial jurisdiction of the United States or navigable waters in which the tide ebbs and flows.)
- ☒ THE REFUSE ACT OF 1939 (Discharge of refuse by vessel or shore facility into any navigable waters of the United States.)
- PEARL
copy REFUSE ACT

INSTRUCTIONS

1. Prepare in sextuplicate, retain one copy for unit file and transmit five copies to District Commander.
2. District Commander will make the following distribution:
 - a. Retain original for district office file.
 - b. Forward one copy to District Engineers, U. S. Army, Corp of Engineers.
 - c. In accordance with current instructions, forward one copy and a transmittal letter to owner of vessel or shore facility.
 - d. Forward one copy to Commandant (OPL)
 - e. Forward one copy to Commandant (CMC), Attention, Oil Pollution Panel.

REPORTING UNIT Captain of the Port New Orleans, La.	CG DISTRICT Eight	DATE OF REPORT 5 July 1968
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SECTION I - VESSEL DATA

1. NAME OF VESSEL	2. OFFICIAL NUMBER	3. NATIONALITY
4. HOME PORT	5. INTERNATIONAL CALL	
6. TYPE OF VESSEL ☐ DRY CARGO ☐ TANKER ☐ PASSENGER ☐ OTHER (Specify)	7. TYPE OF PROPULSION	
8. OTHER IDENTIFYING INFORMATION (If available)		
9. OWNER(S) (Name and address)		10. LOCAL AGENT(S) (Name and address if applicable)
11. MASTER a. NAME AND ADDRESS (If available) b. LICENSE NO.		12. CHIEF ENGINEER a. NAME AND ADDRESS (If available) b. LICENSE NO.

SECTION II - SHORE FACILITY DATA

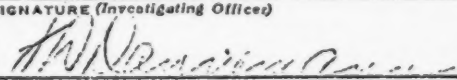
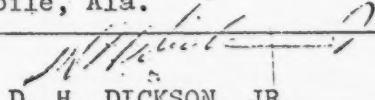
1. NAME AND ADDRESS OF COMPANY OR INDIVIDUAL Crosby Chemical Company Picayune, Mississippi	2. TYPE OF FACILITY Chemical Plant
3. TYPE OF REFUSE Various Chemical wastes	
4. OTHER IDENTIFYING INFORMATION	

SECTION III - POLLUTION DATA

1. PERSON REPORTING POLLUTION (Name and address if available) Mr. Melvin West Rt. 2 box 114-1AA Picayune, Miss.	2. WITNESS (Name and address if available) Mr. J.D. Herrin Rt. 4 Box 479 Picayune, Miss.	3. SIGNED STATEMENT ATTACHED ☐ YES ☒ NO
4. PLACE OF POLLUTION (Local name or geographic coordinates) From: Richardson Slough to Holybolachitta Creek to East Pearl River.	5. TIME 0730-1830	6. DATE 8 June 1968
7. PHOTOGRAPH ATTACHED ☒ YES ☐ NO		8. SIGNED STATEMENT ATTACHED YES NO
9. OPERATING PERSONNEL INVOLVED	9. DUTY	10. MARINERS LICENSE NUMBER (If applicable)

PREVIOUS EDITIONS ARE OBSOLETE

(SEE REVERSE)

SECTION III - POLLUTION DATA Continued		
12. CAUSE OF POLLUTION (Explain in "Remarks")		
A. EQUIPMENT FAILURE ☐ YES ☒ NO	B. PERSONNEL FAILURE (Incompetency, willful disregard of law, carelessness, etc.) ☒ YES ☐ NO	C. TYPE OF LICENSE OR CERTIFICATION HELD BY PERSON (If applicable)
13. EMERGENCY MEASURES TAKEN TO REDUCE FIRE HAZARDS NONE		
SECTION IV - OIL POLLUTION SAMPLES		
When samples of pollution to be used as evidence are taken from a shore facility or on board a vessel and from the water, the following information shall be filled in and also put on the labels of the samples.		
1. SOURCES A. a. See Attachments	2. TIME A. B.	3. DATES A. B.
4. NAME OF PERSON(S) TAKING SAMPLES E12 Richard Kraus	5. WITNESS(ES) TO TAKING SAMPLES EM2 Thomas J. Johnson	
REMARKS (Give brief description of incident including attitude of personnel and cooperation received.) (Indicate item number to which remark applies. Use 8x10 1/2 sheet if additional space is needed.) At 0730 on 8 June 1968 the New Orleans Coast Guard Mobile Boarding Team commenced an investigation of water pollution at Picayune, Miss. on the request of the Pearl River F & W Conservation Club. Assisting the Mobile Boarding Team were two Officers of the Pearl River County Fish and Wildlife Conservation Club-Mr. Melvin West and Mr. J.D. Herrin. The Pollution included various chemicals and was traced to a discharge at Crosby Chemical Co. in Picayune, Miss. and followed for approx. 20 miles to the East Pearl River. At the time of the investigation there were several small amounts of pollution coming from the source, but evidence of tremendous amounts of Chemical pollution were present from the source to the East Pearl River. Formal letter enclosure indicate that this situation has been brought to the attention of local, state, and Federal authorities. Enclosure of personal letters from residents in the area indicate the extent of pollution and the harm that is being done. Apparently, the pollution has existed for several years but now has reached a critical stage. Encl: (a) Miss. Game & Fish Commission Ltrs. dtd 23 Feb. 1967 (b) Pearl river Fish & Wildlife Conservation Club ltr. (c) Federal Water Pollution Control Comm. ltr. dtd 15 March 1967 (d) Miss. Air & Water Pollution control Comm. ltr. dtd 10 April 1967 (e) Louisiana Wildlife & Fisheries Comm. ltr. dtd 27 Feb. 1967 (f) Rep. William M. Colmer ltr. dtd 2 March 1967 (g) Rep. William M. Colmer ltr. dtd 16 March 1967 (See Attachment for add. encl.) (h) Rep. William M. Colmer ltr. dtd 31 March 1967		
INVESTIGATING OFFICER (Typed name and rank or rate) S. W. DANENMANN LTJG, USCGR		SIGNATURE (Investigating Officer) 
FIRST ENDORSEMENT Forwarded		
DATE 7/9/68	SIGNATURE (Unit Commanding Officer)  E. A. POOLTER, CAPT, USN	
SECOND ENDORSEMENT DISTRIBUTION OF THIS FORM MADE IN ACCORDANCE WITH INSTRUCTIONS CONTAINED HEREON. Copy to: District Engineer, Mobile, Ala.		
DATE 12 July 1968	SIGNATURE (District Commander)  D. H. DICKSON, JR.	
By direction		

Samples Taken:.

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1. *Source: Richardson Slough (Leads from Crosby Chemical Co.)
Time: 0900
Date: 8 June 1968 (Photo #1)
2. Source: Where Richardson Slough runs into Holybolachitta Creek
Time: 0915
Date: 8 June 1968 (Photo #3)
3. Source: Holybolachitta Creek 1 Mile south Richardson Slough
Time: 0945
Date: 8 June 1968 (Photo #4)
4. Source: $\frac{1}{2}$ Mile N.W. from discharge at Crosby Chemical Co.
Time: 1200R
Date: 8 June 1968 (Photos #6 & 7)
5. Source: Discharge at Crosby Chemical Co.
Time: 1230R
Date: 8 June 1968 (Photos #8 & 9)
6. Source: East Pearl River 100 yards below Peaceful Pearl River Bridge
Time: 1615
Date: 8 June 1968

*Attachment for add. encl. on report dtd 5 July 1968

- (i) Frank Gordon ltr. dtd 16 June 1968
- (j) David Gordon ltr. dtd 15 June 1968
- (k) Jessie C. Watkins ltr. dtd approx. 19 June 1968
- (l) 9 photogrpahs

Route 4, Box 479
Picayune, Miss. 39466
October 29, 1968

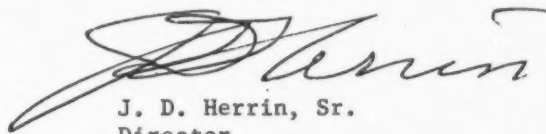
Mr. James P. Minyard, Jr.
State Chemist
Miss. State Chemical Laboratory
State College, Mississippi

Dear Mr. Minyard:

Thank you so much for your Analysis No. 295,651-667 on "Water" Samples from Hobolochitto Creek. Your help is very much appreciated by the entire organization of the Pearl River Conservation Club.

Attached is an analysis done by another laboratory in which you might be interested. It was decided that the samples taken at the same time as the ones given you were a little old after setting up. More samples were taken from the same locations as the first samples. These results are from the second batch of samples run immediately after taking them from the creek.

Yours truly,



J. D. Herrin, Sr.
Director
Pearl River Conservation Club

Enclosure

Mississippi State Chemical Laboratory

State College, Mississippi

JAMES F. MINYARD, JR.
STATE CHEMIST

October 23, 1968

Analysis No. 395,651-667

Analysis of 17 "WATER" SAMPLES

Marked: Hobolochitto Creek

Received on 10/4/68

from Mr. J. D. Herrin, Sr. - Director

Address Pearl River Conservation Club, Route 4, Box 479, Picayune, Miss.

RESULTS:

Dear Mr. Herrin:

Listed below are preliminary results on the 17 samples involving pollution of Hobolochitto Creek which you brought our laboratory October 4. Other results will follow as they are obtained.

Sincerely yours,

	<u>pH</u>	<u>Dissolved Solids</u>	<u>Silica S/O₂</u>
395,651 Hwy 43 Bridge - Above Pollution Drain	6.9	57.6	13.6
395,652 Mouth of Richerson-Bottom & Middle	6.55	125.6	31.2
395,653 1/4 Mile Below Richerson Creek	6.7	103.2	27.6
395,654 1/4 Mile Below Richerson Creek-Middle	6.8	91.6	14.4
395,655 1/4 Mile Below Richerson Creek-Bottom	6.35	109.2	26.0
395,656 Burnt Bridge - Top	6.9	87.6	18.0
395,657 Burnt Bridge - Bottom	6.4	98.8	21.2
395,658 Hwy 11 Bridge - Top	6.7	78.0	14.8
395,659 Hwy 11 Bridge - Middle	7.1	78.8	16.0
395,660 Old Hwy 11 Bridge - Bottom	6.4	121.2	31.6
395,661 Peaceful Pearl Bridge - Top	6.9	80.8	16.0
395,662 Peaceful Pearl Bridge - Bottom	6.6	100.8	16.4
395,663 Hwy 59 Bridge - Top	7.0	79.2	12.8
395,664 Hwy 59 Bridge Midway-Middle	6.7	82.8	17.2
395,665 Hwy 59 Bridge - Bottom	6.55	91.20	20.4
395,666 Material Floating @Burnt Bridge	5.9 (Aqueous)		
395,667 Drift Material-1/4 Mile Below Richerson Creek	6.05 (Aqueous)		

James F. Minyard, Jr.
State Chemist

PLEASE GIVE NUMBER WHEN REFERRING TO THIS ANALYSIS

Subject : Analysis of Water Samples from the East Pearl River and Hobolochitto Creek for Pollutants

Analysis for pollutants has been performed on water samples from the East Pearl River and Hobolochitto Creek per instructions in the above referenced work request. In order for analysis to be of greater value, samples were taken from seven (7) different locations along the river instead of four (4).

In order to determine degrees of pollution in any stream the Mississippi Air and Water Pollution Control Commission have established certain criteria for all waters. These criteria establishes minimum conditions as well as minimum water quality requirements. Section II, Regulation 1-67A, "State of Mississippi Water Quality Criteria for Interstate and Coastal Waters", sets forth minimum conditions which are applicable to all waters. These minimum conditions are as follows:

1. All waters free from substances attributable to municipal, industrial, agricultural or other discharges that will settle to form putrescent or otherwise objectionable sludge deposits.
2. All waters free from floating debris, oil, scum and other floating materials attributable to municipal, industrial, agricultural or other discharges in amounts sufficient to be unsightly or deleterious.
3. All waters free from materials attributable to municipal, industrial, agricultural or other discharges producing color, odor, or other conditions in such degree as to create a nuisance.
4. All waters free from substances attributable to municipal, industrial, agricultural or other discharges in concentrations or combinations which are toxic or harmful to humans, animals or aquatic life.
5. Industrial wastes, municipal wastes, or other wastes shall receive effective treatment or control (secondary or equivalent) in accordance with the latest practical technological advances and shall be approved by the commission. A degree greater than secondary will be required when necessary to protect legitimate water uses.

Specific water quality criteria must be met according to the use of the water or stream.

Classifications of water use are : public water supply, shellfish harvesting areas, recreation, fish and wildlife, agricultural and industrial and navigation and utility.

Criteria established for fish and wildlife is designed to make these waters suitable for fishing, propagation of fish, aquatic life and wildlife and any other uses requiring water of lesser quality. The criteria for fish and wildlife are as follows:

1. Dissolved Oxygen - There shall be no oxygen demanding substances added which will depress the dissolved oxygen content below 40 mg/liter.
2. pH- The pH shall not be caused to vary more than 1.0 unit above or below normal pH of the waters and lower value shall be not less than 6.0 and upper value not more than 8.5.
3. Temperature- Shall not be increased more than ten degrees F above the natural prevailing background temperatures nor exceed a maximum of 90° F after reasonable mixing.
4. Specific Conductance- There shall be no substances added to increase the conductivity above 1000 micromhos/cm for fresh water streams.
5. Dissolved Solids- There shall be no substances added to the waters to cause the dissolved solids to exceed 750 mg/liter as a monthly average value, nor exceed 1500 mg/liter at any time.
6. Toxic substances- There shall be no substances added to the waters to exceed one-tenth (1/10th) of the 48 hour median tolerance limit.
7. Taste and Odor- There shall be no substance added, whether above or in combination with other substances that will impair the palatability of fish or unreasonably affect the aesthetic value of the water.
8. Phenolic Compounds- There shall be no substance added which will cause the phenolic content to exceed 0.05 mg/liter (phenol).

Many forces are at work in streams to assist in the purification of the water after pollution by domestic wastes, and industrial wastes. This purification is accomplished by a combination of physical, chemical and biological forces. The extent to which each force operates is dependent upon the type of contamination. Physical forces dispose of suspended solids; chemical forces cause reactions which breakdown undesirable pollution material; and biological forces contribute by enhancing both physical and chemical reactions.

The demand placed upon the dissolved oxygen content of stream waters to accomplish the reactions of the chemical and biological forces is tremendous. This demand for the dissolved oxygen is increased many times when large concentrations of organic and inorganic matter are discharged into a stream. Oxidation renders suspended and dissolved organic matter harmless with the products generally being mineral matter and gases.

Mineral matter not completely oxidized may be oxidized to completion or hydrolyzed and deposited on the bottom of a stream. All of these oxidization processes utilize the dissolved oxygen content in the water of streams. Chemical reductions may also result in the liquefaction or gasification of organic matter in the process of decomposition.

Phenols are waste products of oil refineries, coke plants and some chemicals producing facilities. The term "phenols" as used in this letter include only the hydroxy derivatives of benzene. Other phenolic compounds may be present but the value expressed only represents "phenol" and will be the minimum concentration of phenolic compounds present in the sample. Phenolic compounds in water are highly subject to both chemical and biochemical oxidation. If phenolic compounds are discharged into streams, these compounds will be oxidized and diluted after traveling a short distance downstream.

Results of the samples from the seven (7) different locations along the East Pearl River and Hobolochitto Creek are as follows: SEE ATTACHED TABLE OF RESULTS.

Results of analysis indicate that the Hobolochitto Creek and East Pearl River is being polluted by a source near the confluent of Richardson Creek and Hobolochitto. These analyses show that the dissolved oxygen content necessary to sustain the propagation of fish and aquatic life is questionable from the confluent of Richardson and Hobolochitto Creek to Interstate # 59 Bridge. Also, these analyses show that no dissolved oxygen deficiency exist at Highway # 43 Bridge or Highway # 11 Bridge. The low dissolved oxygen content from the confluent of Richardson and Hobolochitto Creek to Interstate # 59 Bridge can be directly attributed to the large concentration of organic and inorganic material being discharged into the Hobolochitto Creek from the Richardson Creek. Chemical reactions are consuming nearly all of the dissolved oxygen in the water at the expense of fish and aquatic life from the confluent of Richardson and Hobolochitto Creek to Interstate # 59 Bridge. These chemical reactions are accomplishing the oxidation and breakdown of the inorganic and organic matter in the stream.

These analyses show that no problem exist with some of the other criteria established for fish and wildlife. Criteria where no problem was indicated are pH, dissolved solids, and toxic substances.

Analyses show that phenolic compounds are present in excess of established criteria from the confluent of Richardson and Hobolochitto Creek to one-half ($\frac{1}{2}$) mile below confluent of these two (2) streams. Further downstream at the Palestine Road Bridge, concentration of phenolic compounds was within the established criteria for fish and wildlife. Reduction of phenolic compounds can be attributed to dilution and oxidation effects of the stream after traveling the distance from the confluent of Richardson and Hobolochitto Creek to the Palestine Road Bridge.

Material that was floating in the Hobolochitto Creek was analyzed and found to be an insoluble organic material closely resembling rosin. Rosin is a natural resin extracted from the residue of the distillation of turpentine, tall oil or the solvent extract of pine stumps, knots and top wood. After reactions by chemical forces, this material resembling rosin was found to be deposited by physical forces in the bottom of the stream as far away from a possible source of pollution as the Highway # 11 Bridge.

Even though these analyses indicate that no pollution exists at the Highway # 11 Bridge,

it is possible that the waters of the East Pearl River could become polluted at any instant by a source near the confluent of the Richardson and Hobolochitto Creek. It has been reported that fish kills have occurred in the vicinity of Interstate # 59 Bridge. These localized instantaneous fish kills could have been caused by either toxic substances or a deficiency of dissolved oxygen.

Any stream due to its capacity to respond to the entrance of foreign material will rid itself of pollutants. It appears that the capacity of the Hobolochitto Creek and East Pearl River to rid itself of pollutants has been exceeded from the confluent of the Richardson Creek to Interstate # 59 Bridge. Unless corrective actions are taken, the East Pearl River will in time become polluted at the Highway # 11 Bridge. It is possible that localized instantaneous pollutions that kill fish may already be occurring below Highway # 11 Bridge in the East Pearl River during periods of high water.

Attachment - Table of Results

WATER ANALYSIS RESULTS

SAMPLE A	# 1			# 2			# 3		# 4		# 5	# 6	# 7
	TOP	MIDDLE	BOTTOM	TOP	MIDDLE	BOTTOM	TOP	BOTTOM	TOP	BOTTOM	TOP & MIDDLE	TOP MIDDLE & BOT.	TOP & MIDDLE
Dissolved Oxygen mg/l	5.8	5.0	*	4.0	3.8	*	3.5	3.4	1.5	1.2	0.4	0.3	7.2
pH	6.55	6.80	6.30	6.80	6.40	6.50	6.75	6.50	6.65	6.25	6.55	6.30	6.65
Temperature, °F	-----	-----	-----	-----	NOT	DETERMINED	DETECTED	NO PROBLEM	-----	-----	-----	-----	-----
Specific Conductance	-----	-----	-----	-----	NOT	DETERMINED	DETECTED	NO PROBLEM	-----	-----	-----	-----	-----
Dissolved Solids mg/l	71	85	98	92	88	105	91	110	118	135	170	240	65
Toxic Substances	-----	-----	-----	-----	-----	-----	DETECTED	-----	-----	-----	-----	-----	-----
Taste and Odor	slight	slight	slight	-----	noticeable	-----	strong	strong	very strong	very strong	very strong	very strong	none
Phenolic compounds, mg/l	0.005	0.006	0.006	0.010	0.010	0.011	0.012	0.013	0.025	0.028	0.12	0.18	0.002
Floating scum and Materials	none	N/A	N/A	none	N/A	N/A	none	N/A	pre-sent	N/A	Heavy large areas	Heavy large areas	none

* Dissolved oxygen was not determined on these samples.

A Samples are identified as follows:

#1 Highway # 11 Bridge (top, middle and bottom samples).

#2 Interstate # 59 Bridge (top, middle and bottom samples).

#3 Peaceful Pearl Bridge (top and bottom samples)-confluent of Hobolochitto Creek and East Pearl River.

#4 Palestine Road Bridge (top and bottom samples).

#5 One-half (1/2) mile below confluent of Hobolochitto Creek and Richardson Creek (mixed top and middle samples).

#6 Confluent of Hobolochitto Creek and Richardson Creek (mixed top, middle and bottom samples).

#7 Highway # 43 Bridge (mixed top and middle samples).



DEPARTMENT OF THE ARMY

MOBILE DISTRICT, CORPS OF ENGINEERS
P. O. BOX 2288
MOBILE, ALABAMA 36601

IN REPLY REFER TO

SAMOC

159
16 August 1968

Mr. J. D. Herrin
Route 4, Box 479
Picayune, Mississippi 39466

Re: Pollution of Pearl River

Dear Mr. Herrin:

Reference is made to telephone conversations between you and this office with regard to investigation made by the Coast Guard and photographs taken in connection with the pollution problem of the Pearl River and its tributaries.

You have specifically requested a copy of the Coast Guard report on its investigation, and we are happy to forward herewith one copy of the same. We did not receive from the Coast Guard any of the attachments listed on their report except for nine colored photographs.

Inclosed at this time are the nine colored photographs mentioned above. Since we do not have any copies of these in this office, it is requested that after these photographs have served your purpose you return them to this office. There is no objection whatsoever to your having copies made of these photographs for your own use so long as you return the original pictures inclosed herewith to us.

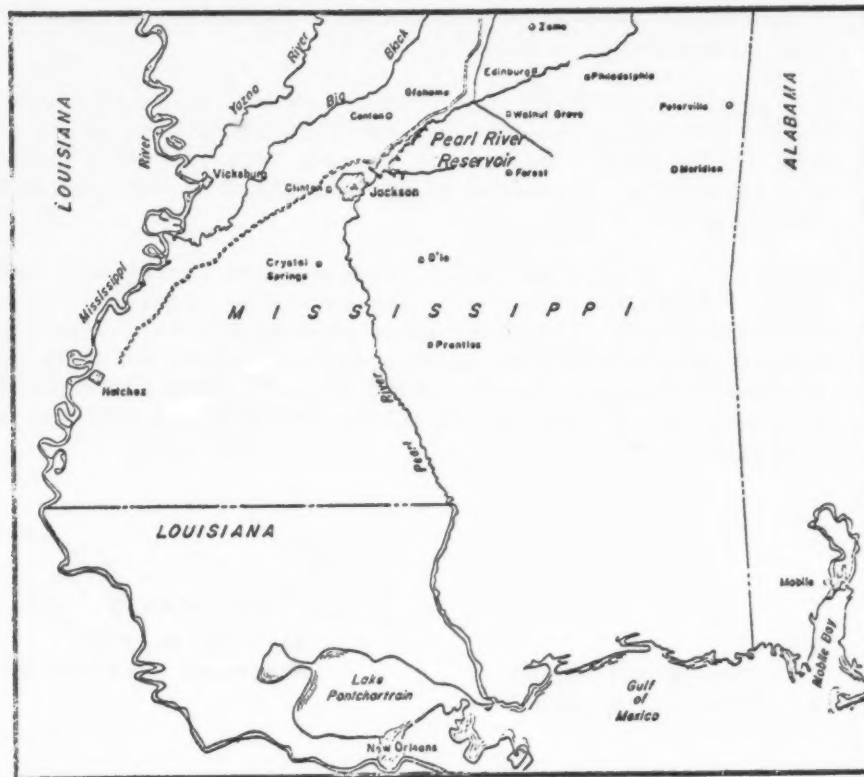
Sincerely,

HARRISON D. FORD
Assistant District Counsel

- 2 Incl
1. Coast Guard Report
2. Nine photographs

CONFERENCE
ON
INTERSTATE POLLUTION
OF THE
PEARL RIVER

[LOUISIANA-MISSISSIPPI]



NEW ORLEANS, LOUISIANA

OCTOBER 22, 1963

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scientists and the chemists, biologists, engineers, physicists and biochemists in this field is curiously antiseptic; and I think that is some kind of compensation for all the fields you work in.

Another point, I think -- and this is just a comment -- that in the field of water pollution control, as in many other fields, the incidence of so-called accidental spills sometimes can be markedly controlled. I think we have had situations such as that where we, for years, had a series of accidental spills in the Colorado River System from the uranium mines. These were particularly serious because the ponds were loaded with radium. After a considerable amount of regulatory work and development of a monitoring system, and so forth, we have eliminated practically all of these accidental spills. There hasn't been one for about a year or two. The best method we seem to have for eliminating the accidental spills was just putting a monitoring station to measure the radiation below each mill -- and the incidence of the accidental spills dropped off tremendously.

Now I think, again, down in the Southwest, down in this part of the country, in the South, you probably have had the same experiences we have had with oil well wastes. Again, when they used to keep the oil brines in pits, we used to find a remarkable number of accidental spills. Then we would go around the pits and find that they had convenient valves and pipes in them, which could siphon the brine out of the pits, and so forth, with motors on them. The difficulty with an oil brine accidental spill is, you know, you can trace the salt generally right down to where it came from.

I think the water pollution control agencies here have demonstrated that they could eliminate accidental spills markedly in that industry, too. So I wouldn't say that accidental spills cannot be dealt with with the cooperative effort on all sides.

Mr. Johnston?

MR. JOHNSTON: I would like to call Mr. Tom Crosby, one of the executives of the various Crosby interests, from Picayune.

MR. CROSBY: Mr. Chairman, conferees, ladies and gentlemen:

I am T. L. Crosby, Vice President of Crosby Chemicals, Inc. We are a Mississippi Corporation and have chemical plants at Picayune, Mississippi and DeRidder, Louisiana, and our products are distributed world-wide. Crosby Chemicals has historically and traditionally concerned itself with the improvement and betterment of every facet of life in the communities and areas of both states in which it operates. This concern has always included the protection and preservation of such valuable natural assets as the rivers and waterways of our area. We welcome this opportunity to present this statement of our efforts to prevent pollution and contamination of the waterways affected by

our industry, as well as our plans for the future protection of such streams.

The only water courses affected by the operation of Crosby Chemicals in Picayune are the Hobolochitto (or Boley) Creek and Pearl River, the former being a tributary of the latter. We do not want either of these streams to receive any harmful effluent discharges from our plant. This desire is principally because we recognize the importance of pure streams and the preservation of fish and wildlife, but we are also motivated because of economic reasons.

Unlike a paper mill or other types of chemical plants, our plant at Picayune has no waste products to dispose of through its effluent system. Any material escaping from us into Boley Creek represents profits flowing down its course into the river. Inventories of our raw materials and finished products in the manufacturing process are taken three times a day and compiled daily to detect if any of our fractions have escaped by any means. Samples are taken of our effluent ditch each day to ascertain if our recovery lagoon system had developed any default. In addition, water samples of Boley Creek, taken above and below our discharge system, are analyzed twice each week.

The only fraction which could escape our industrial process and which requires a recovery system, is a light fatty acid, one of our saleable products. These fatty acids are of the vegetable type and contain none of the non-biodegradable constituents of aromatic petroleum derivatives.

However, to avoid any possible contamination of Boley Creek or Pearl River, Crosby Chemicals constructed in 1957 a large holding pond with a series of traps on the discharge side equipped with a skimming device for recovering any light fatty acids that might escape our manufacturing process. This system required an expenditure of approximately \$75,000.00. The need for this lagoon was called to our attention by the Mississippi State Game and Fish Commission, and after consulting with personnel of this agency, the recovery and discharge system as well as the series of traps was constructed in line with their recommendations. In fact, we enlarged the system about 25 per cent more than was recommended.

In the past three or four years our company has expended approximately \$250,000.00 for better equipment to alleviate any loss of the light fatty acid fraction into the recovery system. This equipment is now utilized in the pre-treatment of Crude Tall Oil and had materially increased the efficiency of our operation by reducing the amount of recovery effort previously required. It has also lessened the possibility of the light fatty acid fraction ultimately reaching Boley Creek by evasion of the lagoon and series of traps.

Incidentally, further trap series were added to our recovery systems in 1959, 1960 and 1961 to increase the efficiency of our plant and further reduce the possibility of any material reaching Boley Creek.

On September 26, 1962, a large fish kill occurred in Hobolochitto Creek and Pearl River. We were subsequently advised that a large slug of some substance had apparently flowed into Pearl River from the Hobolochitto Creek and Crosby Chemicals was suspected as the originating source. We could not discover any material from our system which could have escaped and caused the pollution. Our entire operation for that period was checked and rechecked and no loss of any of our products was found. Any such loss would have been reflected in our daily inventories and production reports, and none was. A thorough examination of our lagoon discharge system and trap series was made and no defects were detected. We requested and secured a conference with the officials of the Mississippi State Game and Fish Commission in an effort to determine any flaw in our manufacturing or discharge system which might possibly have caused this contamination. We have subsequently learned that the infra-red spectra analysis of a chloroform soluble extract from a water sample indicated the presence of fatty acids with and without attached benzene rings. Benzene rings or aromatic compounds of this type are not associated with natural fatty acids except in synthetic detergent materials. Alkyl benzene sulfonate (ABS) is currently under investigation as one of the chief sources of contamination of surface waters. It is a constituent of most household and laundry detergents. We believe there is no evidence to support the presence of aromatic (benzene compounds) associated with vegetable type fatty acids, as produced by Crosby Chemicals. There is a remote possibility of such a contaminant coming from rosin. While rosin has a ring structure, it is classified as a cyclic hydrocarbon and, as such, is susceptible to ring splitting to yield straight chain compounds. Rosin, however, is one of the least volatile of the Tall Oil fractions; so it appears unlikely that it could be present in discharge systems. Our light fatty acid fraction is not an ABS derivative and is completely devoid of benzene rings. Our thorough investigation does not reveal any explanation for the unfortunate pollution of September 26, 1962. Nevertheless, Crosby Chemicals is concerned that this contaminant could have even possibly originated at its plant and further steps are planned to perfect our discharge system.

We are in the process of constructing a 60 to 65-acre lagoon with a series of aeration steps. This will be an added and final process in our discharge system. The construction will require an expenditure of approximately \$175,000.00. We are convinced that this added lagoon will absolutely assure no escape of any product. In fact, we believe the system will be so effective that we are considering the usage of the water discharge from the final lagoon for recycling into our plant. If our research and engineering studies prove to be correct, it will probably be better than the water we presently withdraw upstream. We anticipate completion of this lagoon in January of 1965.

Crosby Chemicals, Inc., with its plants in Mississippi and Louisiana, has had the privilege of consulting and working with the stream pollution authorities in both states. We have been impressed with the dedication and sincerity of purpose of both personnel. At all times they have displayed a willingness to assist us in the planning of any of our manufacturing, recovery or discharge processes which would affect the streams of their responsibility. Crosby Chemicals is grateful for the fine program of these officials to assure the purification of our streams and appreciates their co-operation in our effort to secure this objective.

Our company maintains a 2,000-acre game reserve along the banks of the Hobolochitto Creek and has expended large sums to stock this stream with fish native and foreign to this area, as well as to propagate all forms of game and wildlife in the reserve. We most certainly do not want this example of conservation to be marred by contamination.

Crosby Chemicals will continue its efforts to prevent pollution of the Hobolochitto Creek and Pearl River; and, with the continued help it has previously received from the responsible state agencies, is confident that this goal will be attained.

Thank you.

CHAIRMAN STEIN: Thank you very much Mr. Crosby.

Are there any comments?

MR. JOHNSTON: We would like to thank you very much for that statement. I think it was excellent.

CHAIRMAN STEIN: Yes, I think that statement was excellent.

I have a question here, again. As I understand this, from Mr. Fairall's report and your report, there is a difference; but even though there is a difference, I think you have the solution in sight. According to Mr. Fairall, he indicated in his report that discharges from Crosby Chemicals in 1962 caused the fish kill. Your statement says that there is no evidence to show that this came from Crosby.

MR. CROSBY: What I say is that we have thoroughly checked, and we could find no loss of any materials during the two-week period, going back a week, and in that area.

CHAIRMAN STEIN: Right. Again, this is just for clarification. But in any event, you are going to have this new lagoon system in operation by January of 1965.